THE CULTIVATOR.

TO IMPROVE THE SOIL AND THE MIND.

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History of the Short-Horns.

CATTLE, by W. YOUATT and W. C. L. MARTIN, being a Treatise on the Breeds, Management, and Diseases, comprising a full history of the various races; origin, breeding, and merits; their capacity for beef and milk; the nature and treatment of their diseases; the whole forming a complete guide for the Farmer, the Amateur, and Veterinary Surgeon, with 100 illustrations. Edited by A. STEVENS. New-York: C. M. SAXTON.

THE increasing attention which is being given to improved breeds of cattle, and other live stock, naturally creates a demand for books which contain information on this subject. Such books have heretofore been chiefly derived from English authors. The most elaborate writings on the different kinds of domestic animals, are those of the late Mr. YOUATT, drawn up under the direction of the Society for the diffusion of useful knowledge. His works on The Horse, Cattle, Sheep, and Swine, are considered standards. That on cattle, published in 1835, both as regards the history and description of breeds and the treatment of diseases, may be deemed without a rival.

The work of MARTIN, published in 1848, is one of character and respectability, and in reference to the natural history of the ox, is superior to any which has appeared. The author has been a prominent officer of the London Zoological Society.

But it strikes us that the *plan* of the book whose title is at the head of this article, is liable to a serious objection. The inference from the title page is, that it is a combination of portions of the works of Youatt and Martin, prepared by Mr. STEVENS, who has, also, made alterations and additions, under the plea (as stated in the preface) of "advancing the matter to the present state of knowledge on the subject." The reader, however, is left with no guide or key by which the different authors may be recognised. The point seems to have been entirely overlooked, that the public might regard it as of some importance to know whether statements to which their belief is invited, are made on the authority of Mr. Youatt, Mr. Martin, or Mr. Stevens.

But there is a portion of the work which Mr. Stevens acknowledges as his own. This is given under the head of "Corrections of Mr. Berry, and further Historical Notices of the Short-horns." The chief points to which these corrections refer, are

"1. The *asserted* importation of cattle from Holland about one hundred years since, and the union of their blood with the then existing Short-horns of the valley of Tees. 2. The assertion that about one hundred years since, the breeders of Short-horns, in their pretended improvement, 'proceeded on a judicious system of crossing with other breeds.' 3. The claimed exclusive improvement effected in the Short-horns by C. Colling. 4. The assertion that Mr. C. Colling adopted as the rule of his breeding, the reduction of the size of the Short-horns. 5. The account given of Hubback, in which it is impliedly said he was not a pure Short-horn. 6. The whole account of the Galloway cross, and the value of that cross in consequence of the Galloway blood."

These comprise the principal objections which Mr. Stevens makes to Mr. Berry's history of the Short-horns. We will notice them briefly in their order. 1. Mr. Stevens denies the importation of cattle into England from Holland "about one hundred years since," but says—"There can be no doubt that *originally* the Short-horns came from the Continent." In this Mr. Stevens concedes an important point. It has been held by some persons that these cattle were indigenous to Britain. Thus Mr. A. B. Allen, in his *History and Traditions of Short-horn Cattle*, says,

"We traversed Durham and Yorkshire with unspeakable interest, for these counties are emphatically the home of the Short-horns. Here they *originated*, here they have flourished from time almost immemorial, and here they received those improvements which have carried them to such a pitch of excellence as to insure them a precedence throughout the most fertile regions of the world."—*Am. Agriculturist*, vol. 1, p. 161.

It is proper to say, that the ground taken by Youatt, Martin, and most other authorities, is, that this tribe of cattle was introduced into Britain from the north-western portion of the European continent.

The chief argument adduced by Mr. Stevens to prove that there was no importation of cattle from the continent at the period above alluded to, is, that there was, as he asserts, a statute of Parliament prohibiting their introduction. This act, it is stated, was passed in the year 1666, and continued unrepealed until 1841, "and was *always enforced*, except from 1801 to 1814." Of the existence and operation of such a statute, we have no other information than that given by Mr. Stevens, and at present can only say, that an actual prohibition of the nature here claimed, is irreconcilable with the statements of many writers of the highest respectability. Is it reasonable to believe that the enforcement of such a law would have escaped the knowledge and mention of men of such intelligence as Youatt, Berry, Martin, Culley, Bailey and Low? Yet so far from this, most of these writers and others, positively state, and all of them admit, that cattle were imported during the period referred to, and that some of those importations contributed to the imrovement of the Short-horns.

We cannot here devote the space necessary to show

the views of these writers on this point, by extracts. The following, from Professor Low's *History and Illustrations of British Animals*, may be taken as the substance of what has been said by others. Speaking of the Short-horns, Prof. L. says:—

It is not unreasonable to believe that during the period of Saxon colonization, they may have been brought to the country by the Jutes and Angles who settled in this part of England. * * * * But at a long subsequent period, near our own times, it appears that cattle were frequently brought from the opposite continent. They were chiefly imported from Holland, the cows of which country were the most celebrated of all others in the north of Europe for the abundance of their milk and the uses of the dairy. The earliest importations seem to have been made to the country of the Humber, where the port of Hull maintained a constant and extended intercourse with Hamburgh and the United Provinces. The Dutch breed was especially established in the district of Holderness, on the north side of the estuary of the Humber, whence it extended northwards through the plains of Yorkshire; and the cattle of Holderness still retain the distinct traces of their Dutch original, and were long regarded as the finest dairy cows of England. Further to the north, in the fertile district of the Tees, importations likewise took place of the cattle of the opposite countries, sometimes from Holland and sometimes by the way of Hamburgh, from Holstein, or other countries of the Elbe. * * * * Of the precise extent of these early importations we are imperfectly informed; but that they exercised a great influence on the native stock, appears from the circumstance that the breed formed by the mixture, became familiarly known as the Dutch or Holstein breed, under which names it extended northward through Northumberland, and became naturalised in the south of Scotland. It was also known as the Teeswater, or simply as the Short-horned breed."

2. The reply to Mr. Stevens' second objection will be comprised in replies to the others.

3. The third objection to Mr. Berry's history is that—"It is not true that Charles Colling exclusively improved the Short-horns, or bred better ones than he originally obtained to breed from."

Where did Mr. Berry ever assert that Charles Colling was the *exclusive* improver of the Short-horns? We have never seen such an assertion. Mr. Stevens says—"Mr. Berry, in both his histories, gives no one credit for improvement in the Short-horns but Charles Colling;" and in this Mr. S. thinks great injustice has been done to other breeders, especially to Mr. Robert Colling, who, it is claimed, "was quite as good a breeder as his brother Charles."*

Now the truth is, the charge involved in this statement, is entirely unfounded. Mr. Berry did not claim Charles Colling as the exclusive improver of the Short-horns, but on the contrary, he *does* give others, and especially Robert Colling, high "credit for improvement." Mr. Berry says—

"It would answer no useful purpose, and would certainly be an objectionable course, to bring under particular notice any one or more of the highly valuable stocks of the improved Short-horns of the present day. To enumerate all would be impossible; and the writer of this account would most studiously avoid any partial or invidious comparison. The same objection does not, however, exist as to a remote period; and it is but justice to state that Mr. Robert Colling, brother of Mr. Charles, (who certainly was the leader and surpassed all others in the improvement of the Short-horns,) Mr. Charge, of Mewton, near Darlington, Mr. Mason of Chilton, in the county of Durham, were only second to Mr. Charles Colling in this interesting and useful pursuit." [*Youatt's work on Cattle*, pp. 233, 234.]

4. Mr. Berry thinks Mr. Colling, in breeding, proceeded on the plan of reducing the size of the Short-horns, by that means improving their form, and that this was effected in the first instance through the medium of the bull Hubback. Mr. Stevens thinks he had no such design and produced no such effect. He cites the great weight of some extraordinary fat cattle as proof that Mr. Colling "increased" the size of the Short-horns. Now what did Mr. Berry mean by a reduction of size? It will not, it is presumed, be denied that the improved Short-horns are smaller in bone, in mere bulk of frame, than the old or common stock of that tribe; and this is what we understand Mr. Berry to say was effected by Mr. Colling,—not that the improved stock was incapable of *fattening* to as great weights as the common. But he says expressly, that it was their extraordinary accumulation of flesh and fat, that produced their remarkable weight. An intelligent contemporary of Mr. Colling's illustrates this. He says that by crossing the Teeswater Short-horns with Hubback, "the essentials wanted were acquired, though somewhat *reduced in size;* but as they had more flesh, less bone, and much neatness, *they lost none of their weight when fatted.*" [John Rooke, in *London Farmers' Journal*, June 2, 1821—copied in *Am. Farmer*, vol. 4, p. 166.]

Bailey, in his *Survey of Durham*, speaks of several of the most remarkable fat animals of the improved variety. He says a two-year-old steer of Robt. Colling's, was supposed to weigh (four quarters) 63 stones (882 lbs.,) and another of the same age belonging to Mr. Nesham, was estimated by the butchers to weigh (four quarters) 75 stones (1050 lbs.,) and adds, "*Neither of these animals were of large size*, and would not have weighed above 40 stones (560 lbs.) had they been no fatter than animals usually killed for the markets." [pp. 233, 234.]

4. Mr. Stevens assumes that Hubback was a "pure Short-horn." Mr. Berry says there had been much controversy "touching the purity of his blood,' but re-

* Mr. Stevens, in endeavoring to show that Robert Colling was equal as a breeder to his brother Charles, cites the fact that the latter did not *breed* Hubback; and he cites Mr. Hutchinson to prove that "Mr. Charles Colling himself, never thought so highly of this bull as is now confidently held out." But in the same letter of Mr. Hutchinson's to which Mr. Stevens refers,—(originally published in the *Farmers' Journal*, and copied into the *Am. Farmer*, vol. iv. p. 228,)—it is stated that Mr. Robert Colling,—who with Mr. Waistell, was joint owner of Hubback before he passed into the hands of Mr. C. C.,—had "declared his opinion" that Hubback *was not a good bull.* Mr. Stevens omits this part of Mr. Hutchinson's letter; yet he admits that—"By common consent, every historian of Short-horns recognizes the wonderful merit of Hubback," and he adds the expression of Maj. Rudd, that he "was the *main root* of the improved Short-horns." But according to Mr. Waistell, whom Mr. Stevens quotes, Mr. Ch's. Colling *did* think "highly" of Hubback, for as soon as he came into his hands, he would not let him serve Mr. W.'s cows for less than "*five guineas*" *each.* (p. 124.) Now which showed the most judgment as a breeder in this important case, Robert or Charles Colling? It is true that Mr. Hunter, and not Mr. Colling, bred Hubback; but does that entitle Mr. Hunter to any merit as a breeder? Although Hubback, as Mr. Stevens admits, was a "wonderful animal," neither Mr. Hunter, nor any other person but Charles Colling, perceived his excellence; for it appears that after passing through various hands, he was purchased at six years old by Mr. Colling, for the low price of *eight* guineas—two guineas *less* than Robert Colling gave for him!

gards the question as of "little importance" at the time he wrote. Mr. Stevens thinks it is thus "impliedly said that he was not a pure Short-horn." He therefore proceeds to bring forward what he deems "full and conclusive proof of the purity of Hubback's blood." His first reference is to the pedigree of that animal in the Herd Book; but admitting the correctness of the pedigree as there given, it does not prove the point assumed. The pedigree shows that Hubback was descended in part from the stocks of Sir James Penniman and Sir Wm. St. Quintin, but it is not proved that these were pure Short-horns.

On the point of there having been Kyloe (or West-Highland) blood in Hubback, to which the "controversy" alluded to by Mr. Berry chiefly related, Mr. Stevens cites an "account" which Mr. Coates, the author of the Herd-Book, says was given to him by Mr. John Hunter, son of the breeder of the animal in question. Mr. Hunter says he "remembers" the cow which his father bred, that was the dam of Hubback, and that he does not "believe" she had any Kyloe blood in her. Now it is obvious that the value of this "belief" depends on Mr. Hunter's opportunities for obtaining correct information. Hubback was calved in 1777, and the paper signed by Mr. Hunter, is dated July 6, 1822—forty-five years after Hubback was produced. Of course, the correctness of Mr. H.'s impressions, depends much on his age at the time the animals were bred. How old was he when his father owned the dam of Hubback, which he says he remembers?

Mr. Stevens says (page 121,) "All the authorities for the impurity of Hubback's blood shall be quoted." He proceeds to quote from Major Rudd and others, but leaves out the following expression in one of Major R.'s letters, of which he takes a part: "I am in possession of evidence which establishes the fact that the *dam* of Hubback owed her propensity to fatten to an admixture of Kyloe blood." [Letter in *Farmers' Journal*, dated June 28, 1821—copied in *American Farmer*, vol. 4, p. 174.]

But even Mr. Hutchinson, who is much relied on by Mr. Stevens to make out his case, did not deny, but rather admitted at the time of the controversy, that Hubback had Kyloe blood. Mr. H.'s letter of which Mr. Stevens has quoted a part (page 125,) in which the former aims to show that his own stock is related to Hubbard, commences thus: "The bull Hubback being now pronounced the *grand cause of improvement*, instead *of the main root* of the Ketton and Barmtons, so celebrated above all other Short-horns,—it behoves every breeder to prove his own stock related to this wonderful animal, if he can." He then shows that Hubback was used in Mr. Fawcett's and Mr. Waistell's herds before Mr. Charles Colling bought him, and towards the close of his letter, argues that there were other strains of valuable blood in the Short-horns, besides that from Hubback, saying that it was "most wonderful" that "no virtue is allowed to be found in any blood, but in this *drop of the Kyloe in the veins of Hubback!*" [Letter under date of Oct. 10, 1821, in *Farmers' Journal*—copied into *Am. Farmer*, vol. 4, p. 228.]

Another admission of Mr. Hutchinson's, of a similar character to the above, is referred to in a letter of Mr. Rooke, given from the *Farmers' Journal*, in 4th vol. of the *Am. Farmer*, p. 166.

After a full examination of what Mr. Stevens says on this point, we think the conclusion will be that Hubback's pedigree is as much a subject of doubt as when Mr. Berry left it, 1835.

6. The last point is the Galloway cross. This stock, called the *alloy*, Mr. Stevens contends "had no value except *as conferred* by the Short-horn blood in them, and *in spite* of the Galloway strain."

We will occupy no more space with this part of the subject than is necessary to show the view taken of it by those who have had the best opportunities of knowing the facts. We will omit what Mr. Berry says in praise of the *alloy*, simply referring to one or two witnesses to corroborate his statements.

Mr. Stevens, as we have said before, makes frequent reference to Mr. John Hutchinson; it is evident, therefore, that he considers him *authority*, and he could not consistently appeal from authority which Mr. H. would recommend. Now, in relation to a point connected with the pedigree of the bull Sir Leoline, bred by Mr. H., he referred to Major Rudd, and sent a letter on the subject that he received from Major R., to the *Farmers' Journal*, which he prefaced by saying—"it is from a gentleman whose intimacy with the Messrs. Colling, and whose experience of their stock entitles him to possess the *best information and most accurate experimental knowledge of their comparative merits.*'

In this letter Major. Rudd speaks of the cow Lady, whose progeny some writer had attempted to depreciate in value on account of their Galloway blood, and says—"I have yet to learn that this blood has been of any injury to Lady or her descendants; for I can truly declare, that after having had some experience during *ten years* with different branches of the Ketton stock, *I give the preference to the stock descended from Lady*,—and I know also, that they are held in the highest estimation by Mr. Charles Colling." [This letter is dated May 31, 1821, and is copied in the *Am. Farmer*, vol. iv., p. 149.]

It should be noticed that Major Rudd was for many years one of the leading breeders of Short-horns. At Charles Colling's sale in 1810, he purchased the highest priced animals in the herd, with the exception of Comet; viz: Lily at 410 guineas, Conntess at 400, Petrarch at 365, and Peeress at 170 guineas. Countess was out of Lady, and of course had the *alloy*. It appears Major Rudd always adhered to the opinion above expressed, in regard to the superiority of that stock. In 1824, after the stock had been in his possession *fourteen years*, writing to John Hare Powell of Philadelphia, he says—"I have long enjoyed the friendship and intimacy of Mr. Charles Colling. * * * * Residing at no great distance from him, I was in the constant habit of witnessing his experiments, and when his celebrated stock was sold, in the year 1810, I became the principal purchaser." In a subsequent letter of the same year, written to Mr. Powell he says—"You know that I purchased Mr. Charles Colling's best cows. * * * * Our best breeds of horses for the carriage, the road, the chase, &c.—our cattle, sheep, pigs and dogs, have all derived their improvement from *judicious* crossing. * * * You know that I have had long *experience* on these subjects,

and have been intimately acquainted with our great improvers of cattle, sheep, and horses."*

It may be well to note that Mr. Stevens says he derived the account of the Galloway cross on which he bases many of his conclusions, from Mr. Thomas Bates, and much of his information in regard to Hubback, appears to have been received from the same individual. But even Mr. Bates does not seem to have been *practically* hostile to crossing. It is well known that he made many experiments in crossing the Short-horns with the West-Highlanders or Kyloes. [Youatt on Cattle, pp. 247–8.]

The agent of the largest stock-importing company ever formed in the U. S., stated to the writer of this article that Mr. Bates strongly advised him to bring a bull of this cross to America; and even Mr. Stevens has more than once stated that one of the most noted bulls ever sent to thiscountry by Mr. Bates, possesses a strain of Highland blood. It is true, undoubtedly, that Mr. Bates, as well as Mr. Colling and others, had a definite object in view in making their experiments in crossing, and the result appears to have been, to a certain extent, in accordance with their designs.

This is a brief notice of Mr. Stevens' principal objections to Mr. Berry's history. It will doubtless strike many readers as singular that he should have been made the medium through which so much new light on this subject should be given to the world. The question very forcibly presents itself—why were not these "corrections" made at an earlier day? In a case of so much consequence, involving not only important historical facts, but also the veracity and moral honesty of individuals, why was the issue deferred till those individuals and all the important witnesses, were beyond the reach of a summons to any earthly tribunal? Does such a course accord with the principles of acknowledged justice? If, as is charged, Mr. Berry was actuated by base motives in writing the history of the Short-horns—if he perverted facts and stated falsehoods—why was he not called to account at the time?† All the parties most deeply interested were then living, and able to speak for themselves, and in every view of the case were much more capable of arriving at truth, than an individual belonging to another country could be, after the lapse of many years, when the chief actors have passed away. Under these circumstances, the dictatorial manner which Mr. Stevens has assumed, and the contemptuousness with which he has treated previous history, evinces a egree of arrogance seldom met with, and the inquiry presents itself—By what right does he presume to speak in such oracular terms on this subject?

The manner in which Mr. Stevens supports his own views by quotations, is deserving special notice. He makes frequent reference to authors, without telling us where the language which he attributes to them can be found. For instance, on page 114, he says—"The late Mr. Thomas Bates, of Kirkleavington, Eng., was informed by Mr. Christopher Hill, collector of the port of Sunderland," that examinations had been made in reference to the importation of cattle from Holland.

* These letters are published in the Memoirs of the Pennsylvania Agricultural Society for the year 1824.

† Mr. Stevens says—"It is said that in this second history, his [Mr. Berry's] object was to serve himself, as in the first he had served Mr. Whittaker," and adds that "no one would have a right to complain, had *truth been observed*," &c.

Again on page 119, he refers to a letter of Mr. Bates "relating to his Duchess tribe of cattle," and again on page 120, he refers to a letter from Col. Trotter to Mr. Bates, and on page 124, he refers to a letter of Mr. Alexander Hall to Mr. Bates, and on page 125, to a "certificate" given by Mr. Hall to Mr. Bates. On page 128, he says the "account of the Galloway cross was derived from Mr. Bates."

It should be remembered that Mr. Bates died before Mr. Stevens' book was published, and it is desirable to know *where* the important information communicated to Mr. S. was first recorded; or if it was not recorded, whether it was *all* received orally from Mr. Bates.

On page 118, a description of the Short-horns of Messrs. C. and R. Colling is given, purporting to come from Mr. John Hutchinson; and on page 119 another reference is made to Mr. H., and on page 123 a quotation is given, said to be from a letter from Mr. Foss to Mr. Hutchinson, and on page 125 a quotation purporting to be from Mr. Hutchinson is given, in reference to "a dissension" which it is said had "arisen amongst the Ketton and Barmpton breeders." But in neither case has Mr. Stevens given the least hint as to where the language given was *originally* made public. The same may be said in reference to quotations attributed to Mr. Waistell, on pages 120, 123, 124.

There are other parts of Mr. Stevens' "corrections and further history" which it might be well to notice, did the space to be allowed in a single article permit; but we shall be obliged to conclude by a notice of only one or two more points.

Some readers will recollect that Mr. Stevens gave what he called a "history" of the Short-horns in the Transactions of the N. Y. State Ag. Society for 1849. The main point of *this* "history" appeared to be to show that the most esteemed families of that tribe of cattle were taken to England from Normandy by followers of William the Conquerer. He commences by saying:

"The ancient family of the Aislabies which came into England with William the Conqueror, established themselves prior to 1300, at Aislabe, on the river Tees, in the county of Durham, and the manor, their estate, was called after the family. As early as 1600 the family was known to possess a most extraordinary tribe of cattle."

The inference from this, if anything is to be inferred, is that the best Short-horns are descended from Norman progenitors. Nothing of the above, however, appears in his "Corrections and History" in the book under consideration. Why omit so important a matter when the whole history of the case is to be set right?

Mr. Stevens closes his "corrections and history" by a notice of Mr. Stephenson's stock, the only specimens of which in America, are in the hands of two individuals. He tells us that Mr. Bates, "through Mr. Stephenson's bull Belvedere, *greatly improved* his Short-horns. This is quite different from what Mr. Stevens has elsewhere told us. In the *American Agriculturist*, vol. 5, p. 51, he said—"When Belvedere was brought into the herd, [Mr. Bates' herd,] the only change he made in a marked manner to the eye, was that some of his get were roan. *In essentials the herd remained the same.*"

How is it possible that the herd could have been "*greatly improved*" while "*in essentials it remained the same?*"

Mixing Plaster and Manure.

It has been recommended to mix plaster with animal or putrescent manures, for the purpose of preventing the waste of fertilizing substances. The theory is, that the sulphuric acid of the plaster unites with the ammonia of the manure, forming sulphate of ammonia—that the ammonia thus combined or fixed, is preserved from loss, and when applied to the soil, being soluble, is taken up as food to crops.

This mode of using plaster, according to the testimony of those who have adopted it, has been decidedly beneficial in many cases. Of late, however, we have heard of some cases where the use of plaster appeared to produce a very different effect from that above described. A writer in the *Richmond Whig*, with the signature of "T. S. P." (supposed to be Thos. S. Pleasants, Esq., of Petersburgh, Va.,) states that he has recently taken some pains to "investigate the matter," and thinks he has obtained "a number of important facts." His investigations related chiefly to mixing plaster with guano. He says—

"The result was, that in nearly every case the action of guano was impaired by the addition of plaster, very much in proportion to the quantity of plaster employed. When mixed together in anything like equal proportions, the effect of the guano was entirely destroyed. In one or two instances, when plaster had been liberally used with stable manure, the effect was equally injurious."

Now if these results have been produced—results so different from those generally attributed to the use of plaster—it becomes important to understand the causes which have produced them. And to illustrate the subject, it will be interesting and useful to refer to some experiments reported by Mr. Pusey,* in the *Journal of the Royal Ag. Soc.* for 1850. The following relates to some of his trials with gypsum:

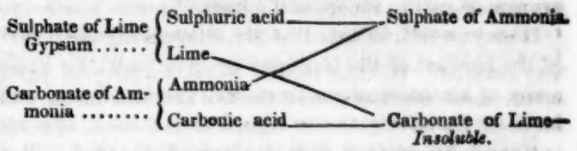
"Ammonia was escaping largely from the litter of a farm-yard, as could be perceived by the common test of holding near the surface, paper dipped in spirits of salt, which turn sthe invisible fugitive into a white opaque steam of sal-ammonia. A whole bushel of gypsum was strewed over a few square feet of the yard. The test showed that the escape of ammonia was uncured."

Mr. Pusey states also that he had used plaster in his stables, but they were not "sweetened." He thinks Boussingault has thrown light on this subject.

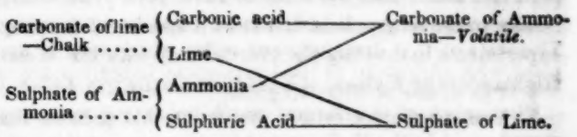
"He says that gypsum in solution, as in a laboratory experiment, does act as desired, but that in a state of *moist powder*, the gypsum is indifferent towards ammonia; nay more, that in that state the law of affinity is reversed, and that carbonate of lime, chalk, decomposes sulphate of ammonia, actually *unfixes* it. To explain this contradiction he quotes Berthollet and the following singular law. If two saline solutions, containing between them an insoluble salt, be mixed, that insoluble salt will be formed: but if two salts, containing between them a volatile salt, be mixed in a moist pulverulent state, the volatile salt will be produced. Thus sulphate of lime and carbonate of ammonia in *solution*, produce carbonate of lime insoluble, leaving sulphate of ammonia, which is soluble though not volatile. But carbonate of lime mixed with sulphate of ammonia, in a state of *moist powder*, acting by an opposite interchange, produce carbonate of ammonia, a volatile salt, and sulphate of lime. The following diagrams will show at a glance the contrary changes.

* "Progress of Agricultural Knowledge during the last Eight Years. By Ph. Pusey, M. P."

Solutions mixed.



Moistened Powders mixed.



Mr. Pusey concludes, therefore, that gypsum must be in a state of solution to fix ammonia, and to bring it into solution, requires, he states, 500 times its own weight of water. It is stated by chemists, however, that gypsum may be dissolved in a much less amount of water, when mixed with chloride of ammonia; and the solubility of gypsum when mixed with manure, is probably increased by the ammonia which the manures contain. If this reasoning is correct, it seems to explain the causes of failure above alluded to, in regard to the mixture of gypsum with guano. From the want of sufficient moisture, the carbon of the guano united with the lime of the gypsum, and the sulphuric acid not uniting with the ammonia of the guano, the ammonia became volatile and escaped.

The ammonia in guano has a great tendency to become volatile, when the guano is in a dry state, and hence, when it has been sown on the surface of the soil during very dry weather, there have been frequent complaints of its inefficiency. The escape of ammonia from stable or yard manures also takes place chiefly when the manure is dry. It is greatest when the manure heats or burns—the carbon, with which the ammonia had been united being consumed and the ammonia set free. This loss might be greatly increased by mixing with the manures, while in a dry state, any substance which should render the ammonia more volatile.

Irrigation in Switzerland.

The following account of the mode of irrigation practised in Switzerland, was communicated for the *Journal of the Royal Agricultural Society*, by Mr. Jenkinson, who collected the information in a personal visit to that country.

The system of irrigation appears to have been practised in Switzerland as early as the fourteenth century, and has doubtless been so extensively introduced owing to the dryness and rarity of the atmosphere; but on account of the variety of the position of the various cantons, there are some modifications in the management of water meadows.

In the Canton of Aargau, which contains some of the best land in Switzerland, the meadows are irrigated with water alone, where the nature of the ground admits of its application. My informant, M. Jean Herzog of Aarau, told me that the water they apply possesses the most fertilizing qualities—that it is of a peculiarly soft nature—and that he has at times observed a kind of soapy or oily (*savoneuse*) substance floating over the meadows when they are in water. When the streams are increased by the melting of the winter snows, the water loses its efficacy, but when thickened with rain, their efficacy is increased. Also when the water is suffered to flow over too large an extent of land, its virtue is invariably diminished. M. Herzog also informed me

that he never irrigated during the full moon, as he had always observed that when the meadows were allowed to remain in water during the clear moonlight nights, that the grass was perceptibly weakened, and that its very color was affected. He had applied water to different parts of the same meadow during the full and new moon, and had experimentally verified this fact.

During the *extreme* heat of the summer the water is not left on the meadows by day, but is turned on during the night.

The water is supposed to act as a species of *manure*. The tests of that description of water which may be applied with advantage to the purposes of irrigation are—

1. The power of dissolving soap.
2. The good quality of the trout that inhabit the stream.
3. The growth of the water-cress and weeds at the bottom of the water.

Spring water, from a source warm in winter and cool in summer, is by some persons considered more productive than the water of streams.

Streams that leave calcareous deposits on their banks, or that form petrifactions, are always injurious, and those inhabited by coarse fish alone, are generally bad.

M. Herzog's method of treatment of his water-meadows, is as follows:—After the last crop of grass is cut, which generally takes place in the beginning of October, the water-courses are cleared out, the hollows are thus filled up, and the meadows are irrigated during the months of October, November and December, till the hard frosts commence, and the winter snows fall. Should there be snow, and the weather not very severe, the water is still kept flowing over the meadows in order to melt the snow; but as soon as there is any danger of the water freezing, irrigation is discontinued.

The water is made to flow over the land for two or three days. It is then turned off and employed in irrigation elsewhere; and after the interval of a week or a fortnight, according to the appearance of the grass, it is again made to flow over the same land for a similar period. This system is continued till the irrigation is stopped by the frost and snow, and the irrigation during the months of October, November, and December is considered as the most beneficial to the land. During the spring when the streams are swollen with the melting of the snows, irrigation is discontinued. In March the system is recommenced, but the land is left dry for longer intervals. In April the first crop of grass is cut. This crop of *grass* is made use of for the stall-feeding of the cattle; it is so rich that hay is always mixed with it. After cutting, the water is again turned on for two or three days, and this is repeated at intervals of a fortnight or three weeks till the end of May or beginning of June, when the grass is cut for *hay*. After this crop has been got in, the land is left dry for ten or twelve days, when the same system of irrigation is again pursued, except that a somewhat longer period is allowed to elapse between each successive watering. The second hay-crop is generally cut in August; the land is then subjected to a similar kind of treatment, and the grass is cut for the fourth time about the end of September or beginning of October; and this last crop is also generally made use of for the stall-feeding of the cattle who are never turned out into the water-meadows. From this method of treatment it appears that four crops of grass are usually raised, and in very favorable seasons an additional crop may be obtained. The quantity of hay produced by an acre of water-meadow varies from 53 to 63 cwt.

Water-meadows are sometimes, (I do not imagine the practice to be at all general,) broken up after a period of four or five years, and potatoes, corn, clover, &c. are grown for a few seasons, when the land is again converted into water-meadow.

With regard to land where irrigation cannot be practiced, very much the same system of cultivation is pursued as in the better managed farms in England—solid manure being applied in autumn, and liquid manure in spring, and after each crop of grass. Liquid manure is mixed with water only in very hot weather. I saw a a field on M. Herzog's farm which he had already cut four times this year. There was then, September 23, a rich crop of grass which would be fit to cut in the beginning of October.

In the Canton of Berne, the system of irrigation is not so generally or so exclusively employed. Through M. Zellweger's kindness I had introductions to M. Robert d'Erlach of Chateau d'Hildelbank, and M. Emile de Fellenberg of Hofwyl. M. d'Erlach farms at Hildelbank about 180 acres, 45 of which are arable and the rest grass land. He pursues nearly the same system as that which I have already described as practiced in the Canton of Aargau, except that after May he never leaves the water on the meadows during the day, but irrigates only by night. He does not often get more than two crops of hay, the first being generally cut in the beginning of June. He turns his cattle out in the autumn, and does not feed them when in the stable with grass cut from the water-meadows, but with grass cut from the fields which have been manured. There is a spring on his estate which contains a large amount of carbonic acid gas; indeed the poor often drink it as a mineral water, and the water from this spring possesses remarkable fertilizing qualities. M. d'Erlach also told me that water which is previously useless for irrigation, after passing through mills or villages, generally becomes available.

I also paid a visit to M. de Fellenberg's farm at Hofwyl. This is situated on a conical hill, the sides of which slope gradually away. When the late M. de Fellenberg first came there, this hill was little better than a swamp, while the low ground was frequently under water. Forty feet from the top of the hill there exists a stratum of gravel, at which depth springs were discovered. M. de Fellenberg conceived the idea of draining the whole farm, and applying the water which existed on the gravel bed to the irrigation of the sides of the hill. He formed drains mostly from 10 to 12 feet in depth, covering them above with flat stones, and filling them up with loose stones till within three feet of the surface, where he placed a layer of moss to prevent the soil from being carried away by the drains. A constant supply of water is derived by means of the drains constructed on the hill-side, and is carried along the hill-side to the different parts of the farm. The water-course that conveys the water to the more distant localities is covered over, so that the water may not be affected by the temperature of the air; thus when applied to the land it is warm in winter and cool in summer. It is the intention of M. de Fellenberg to convert the whole hill-side into water-meadows: (part is now arable land.) To effect this he removes the subsoil so as to make the surface even, taking care, however, to replace, the surface soil: the subsoil so removed is exposed to the action of the air, and is then mixed with solid manure, and applied as dressing.

M. de Fellenberg thinks he cannot irrigate too much. I never saw fields look brighter or greener than the water-meadows on his farm; and the grass was thick, as M. de Fellenberg expressed himself, "like a brush." The greater the fall the quicker the grass grows (though I should observe that the fall was in no part very excessive.) M. de Fellenberg irrigates as late as possible in the year, and only stops when there is danger of the water freezing in a mass on the land: as long as the water trickles underneath a surface of ice he continues watering, and considers that this surface of ice protects the roots of the grass. The water is made to flow over a certain portion of land for twenty-four hours. It is then shifted further on, and in about a week they return to the point where they commenced. This shifting is occasioned solely by the scanty supply of water, and were there a sufficiency of water, M. de Fellenberg would let it flow constantly over the meadows, except immediately before cutting the grass. Irrigation is discontinued from the period when the severe frosts set in until such time as the snows have melted. Generally irrigation is recommenced in the month of March, and, as I have before stated, the extent to which the irrigation is carried is only limited by the supply of water. M. de Fellenberg generally has four crops of grass: the first and last are employed for the stall feeding of the cattle; the two intermediate crops for hay. Some years

he has even had six crops of grass, and he recollects one year when the grass was cut for the cattle as late as Christmas. The first crop is generally cut in May, and the last crop in the end of October. The quantity of hay produced (as I was informed) per English acre is from 65 to 70 quintaux (somewhere between 64 and 69 cwt.) M. de Fellenberg finds it necessary, merely on account of manure, to keep from fifty to sixty cows. He farms about 280 acres, of which 90 are grass land. He also feeds the cattle during part of the summer with clover. The cattle are never turned into the water-meadows. Those meadows which cannot be brought under irrigation are manured with solid manure in the autumn; and should there not be a sufficiency of solid manure to spread over the whole, the remainder is watered with liquid manure *while the snow lies on the ground.*

In the farm-yard are tanks in which every drop of liquid manure is collected. This is pumped up into a channel and conveyed by it to the water-courses, and thus with the smallest amount of labor some of the water-meadows are irrigated with water diluted with liquid manure. The grass from these parts is consequently richer and thicker, but the number of crops produced from land thus irrigated is the same as that which is produced from land irrigated with water alone.

There is a pump in the center of the manure pile by which the drainings are pumped up every morning over and upon the manure pile, while part of the fluid is thrown over rubbish, potato stalks, &c. The hay was stowed away in large lofts above the cow-stables.

The whole farm was a most interesting sight, particularly when it is borne in mind that the enterprise and perseverance of one man, has rendered what was formerly a marsh covered with coarse grass and rushes, one of the most productive and valuable farms in Switzerland. Nor were the immediate results of the late M. de Fellenberg's energy the most important. For the agricultural college and schools of Hofwyl have gained for their benevolent founder a higher name than that of a successful agriculturist. These establishments are now carried on by his two sons, who also manage the farm entirely themselves.

I only wish I could have given a better or more worthy description of what M. Emile de Fellenberg was kind enough to point out to me. On parting, he observed that it was owing to the peculiarity of the position that they have been enabled to bring about such great results; and that their system could not be applied except in places as advantageously situated. Still he added that Hofwyl was a proof of what the energy and perseverance of one man could effect.

I shall be very glad if the few facts which I have collected, and I have attempted nothing more, are not altogether without interest to you; and I must thank you for the useful hints you gave me as to the points which would be most deserving of notice. The inquiry opened a most interesting and to me a new field of observation, and added considerably to the pleasure of a vacation ramble, while through the kindness of Mr. Morier and M. Zellweger I had the good fortune of making the acquaintance of some highly informed Swiss agriculturists, of whose attentions I cannot be too sensible.

Cultivation of the Chestnut.

In answer to a request for information on this subject, published in our February number, we have received several communications, the most essential portions of which are comprised in the following summary.

Mr. V. W. S.. of Syracuse, says—"The nuts may be planted in the fall, in drills, an inch or two in depth; or they may be preserved till spring, and then planted in the same way. If planted in the fall, they are liable to be thrown out upon the surface by the frost, when they will dry up and be lost, if not watched and covered again. The whole secret of success consists in preventing the nuts from being dried. If dried a very little in the house, in the fall, their germinating power is destroyed. I have an hundred or more trees growing from the seed, which I started in this way. The fresh nuts were buried in the earth together, when first gathered, and as soon as the ground could be prepared next spring, were taken thence and planted in the nursery row, a few inches apart. They had already sprouted. Some of them grew at once, and others did not appear till after the lapse of several weeks. They have grown finely for two years, and some of them are four feet high. I intend, the coming spring, to cut off the tap-root where they stand, by thrusting a sharp spade into the ground under them, striking the root say six inches from the surface. When they come to a suitable size, after this treatment, I presume they will bear removal without trouble, which the tree growing naturally in the woods will not."

Mr. I. Hildreth, of Big-stream Point, N. Y., says—"In the first place, the nuts should not be allowed to dry, but as soon as gathered should be mixed with leaf-mould sifted, and then put in a dry place, below the frost in the ground, for if they are frozen, even in the the earth, they will be injured; and if several times frozen and thawed, they will be killed, as the frost destroys the texture of the nut, making it soft. After the chestnuts have been kept in this manner through the winter, early in the spring, as soon as the ground opens, they should be planted out where they are to remain, as they do not transplant well. They should be protected from severe frosts by leaves or some such substance, until they appear above ground, when there will be no further trouble, except to cultivate and hoe them until they become strong, from which time they will take care of themselves. It would facilitate the growth of the young tree, if each nut was planted in a double handful of coarse leaf-mould, as such is the substance which nature has provided for them where they grow naturally—at any rate it will prevent the earth from becoming hard about the young plant, and serve as manure."

Mr Henry Halsey, of Windsor, Ct., sends the following: "In the fall of 1849, in October and November, I planted about two acres with chestnuts. The land was a poor sandy soil—previous crop, rye. At the time of planting, the ground was literally full of the burrows of the ground-mole. Not more than one-third of my seed came up, in consequence, I believe, of the destruction of it by this troublesome little animal; for, on examination of the missing plants, I almost invariably found a mole-path to where the seed was planted. I planted the seed from half an inch to an inch in depth, merely turning up the ground with the corner of the hoe, and placing the seed, and then laying the earth back again. I once planted some horse-chestnuts that had been dried; not one of them sprouted. I afterwards planted some as soon as they fell from the tree, and in this case there was scarcely a failure. I have reason to think the common chestnut should be treated in the same manner. If your correspondent will take the precaution to have his seed, as soon as gathered, put and kept in moist sand or earth until planted, I think he will find no difficulty in getting his seed to sprout. I have treated mine in this way."

Mr. Jas. W. Gray, of New-Fairfield, Ct., says—"I have succeeded well by burying the nuts in the fall in a dry place, with a slight covering of earth, as nursery-

men bury peach stones. In the spring, as soon as the ground is in a fine friable condition, take them and plant them in rows, 10 to 12 inches apart and 3½ feet between the rows, in light soil. They will grow from eight to to twelve inches the first season. The nuts should be put in the ground as soon as possible after gathering. Perhaps your correspondent has failed to have them vegetate by letting them get too dry before planting. They grow with me as readily as peach stones."

A correspondent with the signature J. T. H., Newton-Center, Mass., thus describes his mode: "My practice has been to gather the nuts when they had fallen from the tree, and were fully ripe—always selecting the largest and best; and then, without drying, mix them with sand and loam, in about equal parts. There should be enough of this to prevent the nuts from heating. Then they may be put into a cellar, or any other suitable place, where they should be kept suitably moist, as well as free from the depredations of squirrels, mice, &c. In the spring, when the ground is sufficiently dry, they may be planted; the land having been well pulverized, and manured with compost. They should be but slightly covered, unless there is a prospect of dry weather, in which case they may be covered deeper. They sometimes rot in the ground by being covered too deep. Care should also be taken after they are planted, that they may not be carried off by squirrels, or any other animals. They will make from one to two feet growth the first year, and sometimes more. They may remain in the seed-bed two or three years. When moved, the tap-root may be cut off. Should they grow crooked, they may, after they have got stout enough, be cut down even with the ground, when they will throw a nice, straight shoot, which will grow very rapidly, so that little time is lost in so doing while you get a straight tree."

J. R. L., Wilmington, Del., writes—"Take chestnuts as soon as they fall from the tree; plant in rows in white sand, one inch under the surface,—the sand packed hard; put the box in a green-house or hot-bed; water very sparingly until the shoots appear, which will be in a month after planting; then increase watering; when the plants are a foot high, prepare a compost, of sand, fresh soil and leaf mould, equal parts; transplant each root into a six inch pot, filled with the compost; keep the plants in the house or hot-bed until thoroughly rooted, that is until the roots fill the pots, turn out the ball entire, and plant where you wish the tree to remain. The first winter tie up in straw. By this method we have been entirely successful—never having lost one plant—the trees bearing the fifth year from the seed—and not over 5 to 6 feet high. The Pecan can be raised in the same way in this latitude."

G. B. D., Burlington, N. J., writes,—"If your correspondent from Otsego will pack his chestnuts in moss or damp sand, soon after they fall from the tree, and place them in a cool cellar until the ensuing spring, and then plant them out, I think he will have little difficulty in growing them."

Mr. NORTON CASE, Granville, Ohio, says—"In the fall of '42, I gathered some chestnuts, so superior in beauty to any I had ever seen, that I thought to raise some trees, in hopes to get some like the parent. I took leaves and muck from the woods, mixed chestnut leaves and muck in a leaky box, (sufficiently tight to keep out the mice, but not the rain,) and put them on the north side of the fence. In the spring I prepared my ground as I would for beets, (deep and mellow;) when the chestnuts began to sprout, I planted them in rows an inch deep, spreading over another inch of leaves and muck. All the good and sound nuts grew, but they grew very slow the first three or four years. The last two years they have grown faster, being now from three to four inches through at the but, and from ten to twelve feet high. They were transplanted at two years old, without loss. Some have been sent to a distance of 100 miles, but with what success I have not learned. I presume the bad success your correspondent has had, is from the nuts getting dried. Mine were put in the muck the day they were gathered. I have grown the walnut in the same way—both the hickory and black walnut."

Cutting and Curing Grain.

Experiments have pretty well settled the fact that wheat should be cut while the grain is in the state called *doughy*. This conclusion was, indeed, reached several years since in regard to wheat, but it has by the experiments of VOELCKER, been clearly shown to be applicable to oats; (See Cultivator for 1850, p. 260,) and it is also known to be equally applicable to Indian corn. At first, it was feared by some that there would be a great shrinkage of the grain cut in this stage, which would amount to absolute loss. It is proved, however, that the sap of the stems or straw, is sufficient to perfect the grain, and that the grain, under such circumstances even possesses some valuable properties which it has not when it remains uncut till dead ripe.

Mr. COLMAN states that he found by many inquiries in England, that "the best rule for harvesting is not when the stalk below the head has changed color, and the circulations have consequently ceased, but when the grain, though it has ceased to yield any milk upon pressure, is yet soft." The advantages of cutting at this stage are briefly given as follows: "Wheat cut early affords more grain, yields less bran, makes better flour, wastes less in gleaning, gives better straw, and enables the farmer to do the work more leisurely."

C. W. JOHNSON, in the *Farmer's Encyclopedia*, observes—"Grain, if not reaped until the straw is wholly yellow, will be more than ripe, as the ear, generally, except in the late seasons, ripens before the entire of the straw, and it is observable that the first reaped usually affords the heaviest and fairest sample. The indications of ripeness in wheat are few and simple. When the straw exhibits a bright golden color from the bottom of the stem nearly to the ear, or when the ear begins to bend gently, the grain may be cut. But as the whole crop will not be equally ripe at the same time, if, on walking through the field and selecting the greenest heads, the kernels can be separated from the chaff when rubbed through the hands, it is a sure sign that the grain is then out of its milky state, and may be reaped with safety; for although the straw may be green to some distance downwards from the ear, yet if it be quite yellow from the bottom upwards, the grain then wants no further nourishment from the earth, and if properly harvested, it will not shrink. These tokens will be found to sufficiently indicate the ripeness of wheat, barley and oats; but that of rye arises from the straw losing some of its golden hue, and becoming paler."

Some of the most valuable experiments which have been reported on this subject, are those of Mr. Hannam,

in the 12th and 13th volumes of the *Quarterly Journal of Agriculture*. The trials were made under his own direction, and with great care. He cut samples of wheat at five different times, as follows:

No. 1, was cut a month before fully ripe.
2, " three weeks "
3, " two weeks "
4, " two days "
5, " when fully ripe.

Of these lots, 100 pounds of grain of each yielded as follows:

No.	Flour.	Seconds.	Bran.
1,...	75 pounds,	.... 7 pounds,	.... 17 pounds.
2,...	76 "	.... 7 "	.... 16 "
3,...	80 "	.... 5 "	.... 13 "
4,...	77 "	.... 7 "	.... 14 "
5,...	72 "	....11 "	.... 15 "

Thus it appears that No. 3, which was cut two weeks before it was fully ripe, was superior to the other lots; giving more per bushel than No. 5, (cut when fully ripe,) by 6¼ pounds of flour, and a gain of about fifteen per cent on the flour of equal measure of grain; 100 pounds of wheat of No. 3, makes 80 pounds of flour, while 100 pounds of No. 5, yields 72—showing an average of eight per cent in favor of No. 3. In grinding, it was found that No. 5 ground the worst—worse than No. 1. There were in No. 5 a greater quantity of flinty particles which would not pass the bolt, than in any of the other lots. The bran from No. 5 was also much thicker and heavier than that of No. 3.

Mr. Hannam concludes, therefore, that in cutting wheat two weeks before it is fully ripe, there is a gain of fifteen per cent of flour upon equal measures, a gain of fourteen per cent in the weight of straw, and a gain of 7s. 6d. sterling in the value of every quarter (560 lbs.) of wheat. Many trials have been made in this country in cutting wheat at various stages, and the results agree, generally, with those above given.

But when grain is cut before it is ripe, it is necessary that it should undergo a process of curing, before it can be safely stored in the barn or stack. Hence it is usual to place the sheaves in shock for several days, according to the state of weather, or the degree of moisture in the straw. But it sometimes happens that loss is occasioned, more or less, by the sprouting of the grain while it stands in shock—especially in warm, showery, or damp weather. This was the case last year, in the western part of this state, and it is not unusual in other states. To guard, as well as possible, against loss from this cause, the shocks should be put up in the best manner. They have been made of various forms; but those affording the most effectual protection are described in the *Pictorial Cultivator Almanac*, belonging to our current volume, page 10.

Caps, made of cotton cloth, have been used for protecting hay, while in the process of curing. We have several times described the mode of making and using them. (See Cultivator for 1848, p. 286—for 1849, p. 260—for 1850, p. 315, 380.) They cost but little, and have proved very useful in protecting hay from rain—many farmers who have used them, have derived an advantage in one season, more than sufficient to pay their cost, and the caps will last, with proper care, many years. We see no reason why they might not be used to profit in curing grain in shock.

Stephens Farmer's Guide.

ANALYTICAL LABORATORY, YALE COLLEGE,
New-Haven, Conn., May 28, 1851.

MESSRS. EDITORS—I place the title of the above work at the head of this letter, and propose to make some comments upon it, with the intention of leading our farmers to an appreciation of its value. As my name is connected with the book, it may be thought that my writing in its praise is somewhat indelicate, but I can free myself from this charge by saying here,—that I never expect to derive the least pecuniary benefit from its circulation, having no interest whatever in its sale, except that which arises from a strong desire for the spread of agricultural knowledge. The book is owned and published by Leonard Scott & Co., of New-York, in connection with the Messrs. Blackwood of Edinburgh. My part has been the appending of some notes and commentaries, limited in their extent by the already voluminous character of the work.

Under these circumstances, I have felt that there is no impropriety in my calling some attention to this work, in addition to those commendatory notices which have already appeared in your columns. It is now rapidly approaching completion, and before this letter is printed, is expected to be entirely finished. The American public will then be in possession of one of the most completely and beautifully illustrated books issued from any press, overflowing with matter and detail, and accurate in every department of practice, for the small sum of $5, an almost unexampled instance of cheapness.

In recommending the perusal of this, or any other standard foreign work on agriculture, we are always met in the outset by the objection, that this author has written of practices and theories which are applicable to another country, and not to ours. It is said—that these foreign writers will only lead us astray, will only recommend systems that are totally inapplicable here. Now this is partly founded upon reason. If we were to take Mr. Stephens, or any other foreigner for our guide, and follow his directions implicitly upon one of our farms, the result would probably be quite disastrous; this, however, would not prove that the system was not a good one for another country, and that parts of it, or modifications of it, might not with advantage be adopted here.

I maintain that the great principles which ought to guide the farmer, are the same the world over. He who cultivates the soil of a high northern climate, and he whose fields are bright with the ceaseless verdure of the tropics, must be guided, if both are good farmers, by the same great laws. Climate exercises a controling influence upon the character of the crop, and upon the kind of cultivation which it is most profitable to adopt; so also does nearness to, or remoteness from, the great markets. The appearance of farms then, the implements used, the crops ripened, all differ most materially, and yet I reiterate the assertion that at the bottom the same rule governs in every case.

All cultivated plants, whatever their nature, draw a portion of their food from the soil; if they are carried away year after year, the supply of certain substances in the soil becomes greatly reduced, so that finally the crop will not grow, excepting in places where fertility is constantly renewed from foreign sources. Here then, is a

great rule, applicable to all soils and climates—the farmer may be sure that his land is becoming poorer and poorer, unless the loss occasioned by the carrying away of crops is in some way made good. This is one case; I might mention many more. The true principles of mechanical improvement in the soil, and of cultivation generally, are the same in every country; so are the principles involved in the breeding and feeding of animals, the composition of manures, &c. &c.

Thus it is, that we may derive benefit from a careful study of the habits, methods and general systems of British farmers. Some of them are, without doubt, the best in the world; they have made their profession a study, have become thorough converts to the idea of constant progress, and have brought large capital to the carrying out of improvements. But it would be worse than useless, even ruinous, for the American farmers to follow blindly the course here laid out for them. In the present condition of our country, such *extremely* high cultivation could not be profitable, because it would come into too direct competition with the cheap and almost boundless lands of the far west.

Nevertheless, our farmer may follow his British *Guide* through the whole field of his labor, getting a hint here and an idea there, and new facts everywhere; constantly wiping away old prejudices, and discovering that we have not by any means confined all knowledge to this side of the Atlantic, or if *very candid minded*, that we are really, as a whole agricultural people, years behind our British ancestors.

Such especially will be the results, after reading this work by Mr. Stephens, for it is unique in the long list of agricultural publications. It is really a literary curiosity, in the completeness and fullness of its details and illustrations. Mr. Stephens seems to have brought to his work a mind so full of his subject, as for the time to banish every thought of foreign topics. His zeal in explanation and illustration never flags, and his mind embraces every minute detail of the simplest operation, with seemingly the same degree of interest that attaches itself to the most important and attractive departments. This feature of the work has been criticised, by those who already possess a considerable share of knowledge upon the subjects which he teaches, but it is in reality precisely that which renders it most valuable to the beginner; he finds the minutia of everything fully gone into, and if he wishes to know the manner of performing any work properly, collects all that he can need in the way of explanation. These little hints relative to the details of work, are just what are omitted in most books, and in a majority of cases new modes of working or new implements fail at first, just because such seemingly unimportant directions have not been given.

Few writers on kindred subjects, have studied so faithfully as Mr. Stephens must have done. Whether it is stuffing birds or sausages, or cooking a steak, or plowing and harvesting, it is all alike to him; he takes each branch or subdivision, and devotes himself to it without thought of trouble, time, or labor; his only aim is to give a full, complete, and faithful account. A practical farmer himself for many years of his life, he has a thorough knowledge of the young farmer's wants, and has applied himself to his task with no less perseverance and thoroughness than enthusiasm. How great this task has been, the volumes now in question serve to illustrate, but not until the reader has gone over it all carefully, can he fully appreciate the labor which has thus been so well performed.

Most works that enter so fully as this does into detail, are extremely dull and tedious, so much so as to repel all but the real student, or those who seek some distinct item of imformation. There is however no such defect to be found here; on the contrary the book is in many parts interesting even to a general reader. This I explain by returning to the peculiar quality of mind to which I have before alluded, that leads the writer to throw himself into the present subject, whatever that may be. When we find this peculiarity coupled with a wide scope of general knowledge, and the thorough command of any particular department of science, a mind of no ordinary interest is the result. It is thus with Prof. Agassiz, now of Harvard College; he illuminates his subject and renders it attractive, no matter how trivial in itself, by the fire and enthusiasm of his own genius: large audiences who would in all other cases turn away in disgust from such themes, listen in rapt attention for hours, while he enlarges upon a tadpole's tail or a bullhead's care of her young.

Thus it is in a considerable degree with the writings of Mr. Stephens; we are often carried with interest through what would otherwise be very dry fields, by the enthusiasm and earnestness of the author; this acts as a spell upon us, and we clear out the cow stables in company with the greatest satisfaction, cut turneps into particular sized pieces, inspect the edges of cutting tools, oil the grindstone, and clean the harness, with perfect readiness; the writer is evidently for the time engaged in these operations heart and hand, and before we know it we are fully absorbed also. It is a great triumph to make so large, voluminous, and eminently practical a work, as the Farmer's Guide, so entirely readable from beginning to end. I think I hazard little in saying that not another man in Great Britain could have done it as well.

These opinions relative to the value of this work, and as to the attractiveness of its style, are not singular on my part, for the English press has been almost unanimous in its tone of approbation, and the sale for so costly a series has been uncommonly large. I recommend it therefore without hesitation, to the careful attention of all American farmers who desire to see how broad and noble a field, the practice of their profession may be made to cover.

At the very commencement they will find an abstract view of the applications of science, that will richly repay the whole price of the two volumes; and so on to the end, will constantly discover points and suggestions of great value. It is true that there are many features in improved British farming which will probably never be adopted here, but in the leading rules of conduct we shall gradually approximate more and more, as our population increases, and capital becomes more concentrated.

I have endeavored in my notes to briefly call particular attention to such details and practices, as seemed to me particularly adapted to our country, and to make

such comparisons in our own favor or otherwise, as most naturally suggested themselves after a rather extensive acquaintance with the practical agriculture of both countries. No intelligent farmer can rise from the perusal of these books, or of any considerable portion of them, without feeling that he has gained a vast amount of useful information, and also perceiving that we as an agricultural people have an immense work to do.

I think that American farmers owe something to the Messrs. Scott, for the style of this publication and for the spirit which has led them to assume its risk. I hope that they may in the end be amply remunerated by its sale. Yours truly, JOHN P. NORTON.

Pulverization of the Soil.

The fact that plants can only receive their food in a soluble state, cannot be too strongly impressed on the mind of the farmer. He should also be acquainted with the agencies which bring the crude elements into this state of solution. Hon. L. C. BALL, in an address before the Rensselaer County Agricultural Society, gave some good illustrations of this subject, in speaking of the "mechanical preparation of the soil." He explains the importance of this in reference to the preparation of soluble food for plants, and observes—"All these operations and results which I have endeavored to explain, take place no where else than upon the surface of the earth; *in the presence of light, heat, air, moisture and electric fluids;* subject to the separate influence of each, and exposed to the combined action of all. At that moderate distance below the surface, at which these influences cease to operate, all tendency to decomposition and decay, and all attempts at changes and alterations of form and substance, are arrested. The same elements are doubtless every where diffused, but they are locked up by the conditions of their original combination, and will so remain until brought to the surface, and their prison doors opened by some agent already free. Bury this piece of rock below the influence of heat and moisture, and unless thrown up by some convulsion of nature, it will remain there unchanged for ever. Place it upon a cultivated field, let it be turned by the plow, and exposed to the decomposing agents existing in the air and in the soil, until it is pulverized, and in a few years it will appear upon your table in some article of food, or upon your person in the garments you wear, or be sent to market in the form of beef and pork, and exchanged for tea and sugar. or silks and laces."

Fattening Cattle in Dutchess County.

EDS. CULTIVATOR—The business of fattening cattle by the farmers of this county, for the New-York market, has been followed for upwards of twenty-five years, and for the last three or four years has received a great impetus from some of our most wealthy and influential land-holders—they adopting it, instead of keeping fine wooled sheep, as formerly; their object being to make more money. But the all important question—"Is it a money-making business to fatten cattle at all?" seems not to have been fully weighed. That the time has been when this business was one of great profit to those engaged in it, is not doubted. Before the countless acres of the inexhaustible west were opened to the sun-light, before the cultivated grasses were strewn broad-cast over the boundless prairies, and before the iron horse ran his race of speed from state to state, and from lake to ocean, bearing in his rapid flight loads of the "Yankee Nation," who, planted on that teeming soil, send back to us not "Yankee Notions," but the substantial things of life, the same that Dutchess used to produce and grow rich upon *before* all this occurred. Now she struggles—not to make those articles, for that were in vain, but to keep *alive* until those "better times" for which we have so long and anxiously looked.

To turn this struggle into one of success, is an object greatly to be desired. In order to accomplish this, it becomes necessary to carefully examine the position occupied, and in case it should prove to be one left behind by the "spirit of the age," then should our hard-working farmers leave it also, and adopt some business more consonant with the times in which we live. Then we repeat the question—"Is it a money-making business to fatten cattle at all in this county?"

The usual course pursued is to purchase steers in the fall, wintering them on hay, and allowing them the choicest of our pastures during the following grass season. Another method, of feeding corn-meal, will be considered in another article. A medium sized steer of good quality, may be bought from the droves of lean cattle for $30, and after 12 months good keeping may weigh 750 pounds New-York weight, or the four quarters. He will require two tons of hay to keep him 183 days, and will also require 182 days pasturage, worth here 5 cents per day, or 35 cents per week. Thus it foots:

1849, Oct. 1st., one steer,.....	$30 00
Nov. to May, two tons hay at $5.50,.....	11 00
May to Nov., 182 days pasture, at 5 cents,	9 10
Commission for marketing,.....	2 50
	$52 60
1850, Oct. 1st., by 750 pounds beef at 7 cents,..	52 50
Loss,.....	$00 10

It will be perceived that the interest on the capital invested is not included, as that and the attendance should be balanced by the manure. Hay is worth $15 per ton in New-York, and it can scarcely be said that the home estimate above is too great. Some may argue that they feed straw, and save thereby; but that is worth 6 cents per bundle in New-York, and a steer will eat two or three bundles in a day. Corn-stalks, than which there is no better food for cattle, are worth two cents per bundle here, and a steer will eat four bundles a day if kept as he should be. Few farmers fatten a steer to the acre of their pasture land—where too, each acre would produce two tons of well cured hay, if mown instead of being pastured. Then, surely, the estimate of pasture cannot be too high. But low as our estimates are, we find a balance against us, and he who makes more money at fattening cattle, than at other branches of business, must be a *lucky* man, indeed. With a railroad on our eastern border, and another on the west, that give access to the best market in the Union in the short space of three hours, and three hundred and sixty-five times in a year, we cannot but express the opinion that this slow and uncertain business must give way to that of a more profitable nature. AMENIA.

The Horticultural Department.

CONDUCTED BY J. J. THOMAS, MACEDON, N. Y.

Drying Fruit.

A correspondent inquires for a description of the best mode of drying fruit. While so much attention is given to the cultivation of fruit, there still exists a great deficiency in good, cheap, and expeditious methods of drying—which by converting perishable property into a condition for long keeping and easy transportation, may greatly increase both in extent and profit, the culture of the highest flavored sorts.

Dried apples and dried peaches already constitute a considerable article of commerce. But their *quality* is immeasurably inferior to that which might be attained. The same difference in flavor exists between an unpalatable seedling and the most highly improved grafted variety, whether they be fresh or dried. Yet the poorest apples are usually selected, simply because the dried fruit is bought by the pound, and not for its excellence. Late or inferior peaches are chosen, because their owners have no other use for them; when, besides the inferior flavor of the late seedlings so largely used, the cool damp weather to which they are exposed while drying, does the work in a very imperfect manner, and a half-decayed flavor is often mingled with that of the fruit itself. If dried at all in the open air, it is of much consequence that early sorts, both of apple and peach be selected, that the benefit of a hot sun may be secured. Why is it not as easy to plant and raise early prolific sorts, that will ripen at a time when two days of hot sun will dry them, as later sorts, which will scarcely get dry at all in the open air?

A good and faultless mode of using artificial heat appears not to have been yet practiced. The great and existing deficiency is the want of a *free circulation* of the heated air. Hence the reason that the use of flat boards and shelves is usually attended with greater or less decay. Light wooden lattice-work is better, but still but imperfectly admits a free circulation, without making the slits too wide to prevent the dried fruit from falling through. Cheap netting of light twine is a still further improvement; an easy mode of making it is thus described by a correspondent of the Michigan Farmer:—"Take common carpet yarn, warp it for two or three yards' length, just as you choose; use a five or six quarters reed; in drawing through the reed, use every third or fourth space between the teeth of it; to insure strength, double your thread occasionally, and in weaving, beat two or three threads closely together, and then more open, alternately; when taken from the loom, fasten it to a light frame, and it is ready for use." Frames covered with millinet would probably be found well adapted for drying the smaller fruits.

Rooms or buildings made for drying by artificial heat, must admit a very free ventilation. We have found that when fruit on latice shelves is placed near a fire or under a stove, where there is no current of air, and where heat is imparted solely by radiation, it becomes heated without drying, for there is no current to sweep off the moisture about it. But when suspended immediately over the stove, where the heated air is constantly ascending, the process goes on rapidly and perfectly. When thus dried, it is nearly white in color, and retains its flavor unimpaired, and is incomparably better than a great deal that we often see, which is brown with age, and spoiled with incipient decay, before the moisture is all expelled by the tardy process to which it is subjected.

The following would probably be a well arranged drying-room for this purpose. Let the shelves, made of netting stretched on frames, occupy the interior or central portion, of the room, one above another, at free intervals, and leaving sufficient space for the person in attendance to pass freely round on every side, next to the wall. This would be not only more convenient, but admit a better circulation of air, than if the shelves were placed against the wall. The room might be heated with a small stove, the pipe of which should at first pass horizontally as near the floor as possible, and afterwards ascend to cause sufficient draught. This arrangement would heat the room far better than to place the pipe overhead, as is too often practiced; for in the one case, the heat will rise through the whole height of the room, and benefit all parts alike; while in the other, it only warms the upper part, and neither benefits the lower portions of the room nor causes a circulation of air. The room must be well ventilated at each end near the top, to let off the vapor constantly arising; for even fresh cool air is better than a hot air charged with moisture. The ventilators may be covered with wire-gauze when it may become desirable to exclude flies, wasps, &c.

Peaches for Drying.

[A female friend, who is a thorough practical horticulturist, has kindly furnished the following useful notice, which, like every thing else from her pen, is the result of more than ordinary judgment and experience.]

Having been in the practice of drying large quantities of fruit for family use, I have been led to observe which kinds yield the greatest proportion, from a given amount of fresh fruit. I find that Kenrick's Heath is by far the most productive variety for this purpose. It is a large green fleshed peach, ripening the last of 9th mo. (Sept.) with us, combining every desirable quality. In the autumn of 1850 three bushels of fresh peaches, produced half a bushel of dried ones. Five bushels of apples, I think, is what we allow to make one of dried fruit. Then, the labor is not more than *half* as great, to prepare the peach, as it is the apple—no *coring* is necessary,—only pare it, split it in two, and lay them on boards, in the oven after taking out the bread; leave the door open to permit the moisture to evaporate, and in two days they will be ready to put away. This has been my experience for the two seasons past. So highly do I esteem this variety, that I have budded several hundreds, with the intention of planting an entire orchard of them. They are even *more profitable* than the apple, and come much sooner into bearing. E. S. *Hillside, Wayne county, N. Y.*

To repel the Black Ant.

R. G. PARDEE, of Palmyra, N. Y., informs us that after trying the application of a large number of offensive substances, for repelling the black ant from his borders, he has found *tanner's oil* to be completely effectual.

Answers to Inquiries.

TRANSPLANTING STRAWBERRIES.—"When is the best time to transplant strawberries, after it has been omitted in spring?" *G. W. C.*

As soon after the bearing season as practicable. The earlier they are set out, the better will be the growth they will make before winter; and the more perfect will be the crop next year.

Many persons lose all the plants they remove at midsummer, even after laborious watering, by not doing the work right. As soon as the plants are taken up, the leaves should be all removed but the small central ones not yet half expanded; the roots should be immersed in mud, and the plants then set out; the earth should be settled about them by pouring on water, and then fine earth drawn around them to form a mellow surface. A coating of fine manure, two inches thick, should then be placed about them, which will keep the ground moist, and prevent baking if any subsequent watering is needed, which will scarcely ever be the case. On suitable soil, not one plant in twenty will be lost.

SUCCESSION OF PEARS.—"For how many months of the year can a supply of good pears be had, and what would be a good selection for this purpose?" *W.*

In the northern States, pears may be had for nine months of the year without difficulty, if sufficient attention is given to selection and culture. The earliest pear is the *Amire Joannet*, small, productive, and third rate. A week later is the *Madeleine*, a good variety, ripening with the wheat crop. The Summer Doyenne ripens about the same time, and is nearly as good,—both being eminently desirable sorts. A week or two later are the *English Jargonelle* and *Skinless*, pears of good but not of the highest quality, but better than many of the "far brought, and dear bought" varieties of which so much has been said. The Jargonelle is worthless without house-ripening, and the Madeleine is greatly improved by it. Next to these follow the *Bloodgood* and *Dearborn*, then the *Rostiezer* and *Tyson*, which are the two best summer pears for quality. The only objection to the Rostiezer is its small size; it holds the same place among summer pears that the Seckel does among those of autumn; and the only objection to the Tyson is its tardy bearing. The *Bartlett*, which commences ripening at the close of summer, is far famed for its size, productiveness, and fine quality, and the free growth and early bearing of the tree. Among the best sorts for early autumn, are the *Washington*, *Bilboa*, *St. Ghislain*, *Andrews*, *Belle Lucrative*, and *Heathcot*, all of medium size and fine quality. After them follow *Flemish Beauty*, *Louise Bonne of Jersey*, *Onondaga*, *Autumn Paradise*, *Beurre Bosc*, *Stevens' Genesee*, and *Urbanisti*, which are all above medium in size, and *Seckel*, the highest flavored of all pears, which is small. A little later are *Dix*, *Beurre d'Anjou*, and *White* and *Gray Doyenne*. The two latter are unsurpassed for their good qualities, in all localities adapted to their growth. The *Diel* and *Winkfield* ripen late in autumn, extending into winter. Among the best early winter sorts are *Glout Morceau*, *Winter Nelis*, *Aremberg*, and *Beurre Gris d'hiver Nouveau*, or *Gray Winter Beurre*. The *Lawrence*, a new sort, also promises very highly. *Passe Colmar* (which should be well thinned, and have good culture) and *Prince's St. Germain*, are good pears for mid-winter· and *Easter Beurre* the best long keeper that has been tried to any considerable extent in this country. To ripen into a high flavor, the latter must have a very rich soil, and be well mulched in dry seasons. Specimens of this sort have sometimes kept nearly into summer, but such specimens are not commonly the best ripened, and are imperfect in flavor. An indispensible requisite to the successful keeping of winter pears, is the right kind of a cellar; which should be cool without freezing, moist enough to prevent shrivelling on one hand, and rotting on the other. From this, as is well known, they are to be removed into a warm room to become soft, rich, and fine for eating.

Labor and its Pay.

The New-England Farmer gives a good example of the successful management of an orchard. When the trees were an inch in diameter, manure was applied, and they were kept dug around, the circle thus cultivated being yearly increased in size as the roots extended in length. This circle has now become twelve feet in diameter. Chip manure, bones, ashes, and other fertilizing substances, are often applied. The result of this labor is, that the owner obtains yearly large crops of beautiful and excellent fruit, and obtains more money from his orchard than many farmers do from all sources, although this does not constitute his main business.

Garden Economy at Midsummer.

From almost every kitchen, there is a large amount of slops, soap-suds, and other waste liquids thrown away, disfiguring by a fœtid puddle some half concealed spot of the kitchen yard. It is always as pleasing as it is rare, to see the back yard kept in as clean, neat and finished condition as those portions of the premises kept specially for exhibition to the eye. Happily there are a few, who by a well managed economy in this particular, not only avoid all offensive odors about their dwellings, but contribute towards the vigorous and healthy growth of their garden vegetables and fruit trees, by the timely irrigation thus given them. We should like to exhibit to some who have been neglectful, the kitchen court of an acquaintance, which will challenge for neatness and cleanliness, any of the front yards of his neighbors.

Irrigation simply in itself is highly beneficial to most garden plants; the benefit is increased by the fertilizing matter often contained in waste water. On light or gravelly soils for example, a free supply of water doubles the growth of the raspberry, and greatly improves the size and flavor of the fruit; and strawberries, as the fruit approaches maturity, are almost incredibly benefitted. A cultivator in one of our villages, applied water freely to his vegetables during the past summer. "In ten days," he says, "early potatoes grew two-thirds in size." He had never obtained good potatoes before; other crops were greatly benefitted.

In applying wash to fruit trees, it will be of little use to pour it on a narrow spot just at the foot of the trunk, where but few of the young roots can receive it, but it

must be dashed on broadcast, as far as the circle of roots extends.

An acquaintance has procured a wheelbarrow. furnished with a broad tire, that it may pass without sinking, over mellow ground, and a barrel with a hinge-lid, into which all slops are thrown, and wheeled on the garden as often as necessary. If the odor of the barrel becomes too offensive, a quart or two of charcoal-dust thrown in at once corrects the evil

Timely Hints

Many cultivators, who devote a fair proportion of attention to their fruit trees in spring, forget and almost wholly neglect them at mid-summer. To such we would briefly suggest the importance of keeping a constant eye to them, in order to preserve them in good cultivation, and to prevent disaster from disease or the attacks of enemies. A tree will not thrive, unless it is widely and deeply spaded about, or otherwise kept with a clean and mellow soil. For newly transplanted trees, mulching, or covering *heavily* with straw or other litter, is of great importance in the hot season. On dry soils, the *fruit* of the raspberry is greatly benefitted by mulching. With gooseberries, a *deep* littering is indispensible.

If the *black-knot* should make its appearance on the plum, all the affected parts should be immediately cut off and burned. This, if repeated when necessary, will keep the trees clear of the evil. The labor of watching and cutting, will not be a tenth part as much as every gardener willingly devotes to the culture of a crop of cabbages. Pear trees affected with the blight are to be similarly treated.

Newly transplanted trees, with tall naked stems, are often injured by the hot sun striking upon them, especially at points which happen to incline from its rays. They may be protected by two narrow boards nailed together, so as to enclose the trunk of the tree in the angle. Stiff white paper wrapped loosely around and tied with twine, serves a good purpose.

Hardiness of the Osage Orange.

BENJAMIN HODGE, of Buffalo, gives in a late number of the Horticulturist, an unfavorable opinion of the Osage Orange as a hedge plant for the north, derived chiefly from the following facts. The first season the growth was nearly two feet, the whole of which was killed by the subsequent winter, the roots remaining uninjured. The second year (1850) shoots were thrown up three or four feet high, from one to two feet of which were killed last winter, although not a severe one.

After experiments continued for more than *ten years*, in a climate where the thermometer is not unfrequently 6 or 7° below zero, the writer of these remarks has been induced to adopt a different opinion. Solitary trees, it is true, are often one-third or one-half killed, and young seedlings very often down to the ground ; but there are three substantial reasons why this liability is not a formidable objection to a hedge. In the first place, the killing does not extend further down than the young hedge should be cropped or sheared; secondly, when growing thickly together, the shoots protect each other in a remarkable degree from the effects of the weather; and thirdly, when kept sheared, the growth ceases to be succulent and tender, and the shoots are not killed to any extent whatever. In a hedge which has stood two years, partly untrimmed and which was made of three-year plants, the long and succulent shoots which had shot up alone to some height, were observed this spring to be killed at top; but the smaller and thicker shoots below, were in leaf to their utmost extremities. The fact that a growth of three or four feet was made the second year as above stated, indicates a fertile soil and a consequent succulence not favorable to endurance of intense frost; the result is very different on a soil of moderate fertility and with cropped shoots.

The wall of impenetrable armor which the Osage Orange presents by its profusion of sharp thorns, renders it particularly valuable as a boundary for fruit gardens, and it is believed that its less rapid growth at the north will remove the objection sometimes made to it in the middle and western states, of drawing too strongly on the fertility of the adjacent soil.

It is not expected that in frosty valleys and in such localities as are usually too cold for the peach crop, this hedge will answer; but in other places there is so strong reason to believe its fitness, that further experiments to say the least are fully warranted.

The Fame of a Name.

The celebrity of the Virgalieu pears of western New-York in some of the eastern markets is well known. The value of this good name is quite amusingly shown by a story related by L. F. Allen in the Horticulturist. Two gentlemen of the Genesee country sent each several barrels of Virgalieu pears to be sold in New-York. One of them called his pears the "Virgalieu," the only name *he* knew; the other, to be precise, marked his "White Doyenne." In a few weeks the consignee returned an an account of sales. The Virgalieus brought $12 per barrel; the White Doyenne's, $6. The seller gravely remarked that they were both fine specimens of pear; but if the owner of the Doyenne's had only sent his Virgalieus as his neighbor did, he could have sold them for as much!

Experiments with the best Strawberries.

M. G. WARNER, well known as the leading strawberry culturist at Rochester, reports the following results in Moore's Rural New-Yorker. The soil was only good plowed land.

The *Hovey's* produced the largest berries, *Burr's New-Pine* next, Columbus next, &c. The Rival Hudson yielded the greatest quantity, the New Pine the next, Columbus next, Hovey's next. According to the dimensions of the bed, and the amount of the crop given, the Rival Hudson must have yielded at the rate of 260 bushels per acre.

THE WILLIAM'S FAVORITE APPLE.—The handsome appearance and good quality of this early variety, have made it a great favorite in some parts of New-England, but the high culture it requires will lessen its value for general cultivation, until orchardists learn to give more attention to their trees. S. W. Cole, of Boston, says, "When perfect it is very handsome and saleable. One

cultivator in this vicinity has put a cart-load of manure around a tree yearly, and he has sometimes sold the fruit for five or six dollars a barrel."

Pear Blight.

. J. Downing, in a late number of his Horticulturist, after stating that the pear blight is caused by the extremes of heat and cold in our variable climate, says, "The remedy is to wind straw ropes around the stems and larger branches, and mulch the surface of the ground over the roots. A cultivator of our acquaintance, who lives in a blight district, and who made wry faces for years over the blight, has become a cheerful and happy man since he has practiced this simple method."

NEW PUBLICATIONS.

Lessons in Modern Farming; or Agriculture for Schools; containing Scientific Exercises for Recitation; and Elegant Extracts from Rural Literature, for Academic or Family Reading. By Rev. John L. Blake, D. D. New-York: M. H. Newman & Co.

This work is from the same pen as the "Farmer's Every-day Book," published a year ago, and which we are pleased to learn, has been well received by the public. The author seems to have a good understanding of the wants of our rural population, in regard to general education, and the kind of books best fitted to inspire a taste for agricultural pursuits. The volume under consideration is composed partly of original articles, and partly of selected ones. They are of a character well calculated to interest the rising generation of farmers, and to infuse more elevated ideas in regard to their vocation. The book is of a convenient form and size for the use of schools—containing upwards of 400 pages, 12 mo.—is neatly printed and well bound.

Agricultural Report of the Commissioner of Patents for 1849–50. We have lately received a copy of this document. It contains a large amount of valuable matter, well arranged. We should have been much interested with many of the articles, had we not read them before in the *Southern Cultivator* and the *Genesee Farmer*, which had been made the mediums for giving them to the public before the Report was issued.

A Treatise on the History and Management of Ornamental and Domestic Poultry. By Rev. E. S. Dixon; with large additions by J. J. Kerr; illustrated with original figures of Fowls. Philadelphia: E. H. Butler & Co.

Of the making of poultry-books there will probably be no end, at least so long as the "hen fever" continues. This is the fifth work on this subject which has been published in this country within the past and present year, besides the new editions of former American works of this character, and the importation to a considerable extent, of several of foreign origin. The work above mentioned purports to be a reprint of the highly popular work of Rev. Mr. Dixon, first published in London in 1848, "with additions" by Mr. Kerr. The preface opens thus: "In offering to the public Mr. Dixon's Treatise 'on Ornamental and Domestic Poultry,'" &c. But notwithstanding this, and the use of Mr. Dixon's title, the work contains, comparatively, but a small part of Mr. D.'s. It is, in reality, a *mixture* of selections from Mr. Dixon, with remarks of Mr. Kerr, and letters from the owners of fowls whose "portraits" are said to be given. But the descriptions of varieties do not agree with those of Mr. Dixon, even where Mr. D.'s arrangement is ostensibly followed. Thus Mr. Kerr represents the Hamburgh fowl as a *top-knot* variety, giving a corresponding cut—whereas Mr. Dixon applies the term only to a kind of fowls which never have this appendage. But we cannot here go into particulars—shall probably take another occasion for this purpose. So far as regards mechanical execution, the work is entitled to much praise—it is decidedly superior to any which has been got up in this country, especially in the style of the engravings, many of which are highly creditable to the artist.

The Old Red Sandstone; or New Walks in an Old Field. By Hugh Miller. Illustrated with numerous engravings. Boston: Gould & Lincoln.

We have received from Messrs. Gray & Sprague of this city, a copy of this work. It contains many important geological facts, presented in a very interesting light. The strange hypothesis of transmutation of species, styled by its advocates "progression," is thus humorously shown off by Mr. Miller: "The descendants of the *ourang-outang*, for instance, may be employed in some future age in writing treatises on Geology, in which they shall have to describe the remains of the *quadrumana* as belonging to an extinct order. Lamarck himself, when bearing home in triumph with him the skeleton of some huge salamander or crocodile of the Lias, might indulge, consistently with his theory, in the pleasing belief that he had possessed himself of the bones of his grandfather—a grandfather removed, of course, to a remote degree of consanguinity, by the introduction of a few hundred thousand *great-greats*. Never yet was there a fancy so wild and extravagant but there have been men bold enough to dignify it with the name of philosophy, and ingenious enough to find reasons for the propriety of the name."

Harper's New Monthly Magazine. This valuable Magazine has entered on its second year. The first number of the volume, (that for June,) commences with "Summer," by Thompson, beautifully and appropriately illustrated. It is issued promptly on the first day of each month. Each number contains 144 octavo pages. The number before us indicates that the work will continue to be, as it has been, one of the best literary periodicals published. Harper & Brothers, New-York.

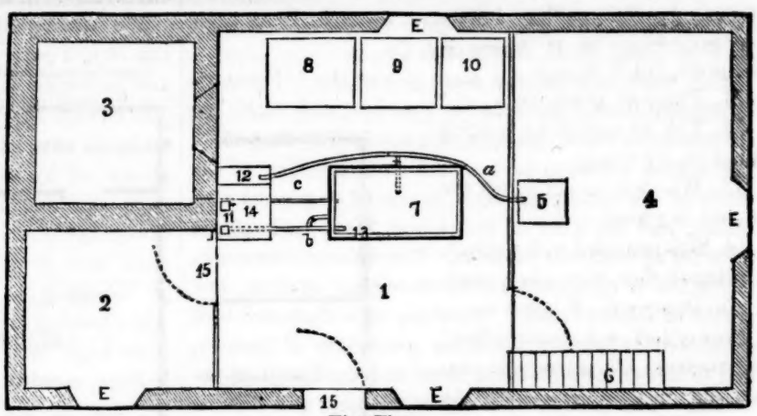
Wild Inconsistency.—Dr. Lee remarks, in relation to the present forgetfulness of agriculture by the government, "To Washington, as a *General*, there is going up in the federal metropolis, a monument which will cost over a million, and be five hundred feet or more in height; but to Washington *the farmer*, nothing is done except to permit the once fine estate at Mount Vernon to grow up in briars, bushes and pines, a harbor for wild beasts. What with the ten millions a year expended on the *army*, and the nearly twenty millions given to *politicians*, it seems extraordinary that a nation of farmers cannot afford a few dollars necessary to make the estate of the great and good Washington an experimental or model farm."

Plan of a Dairy-House.

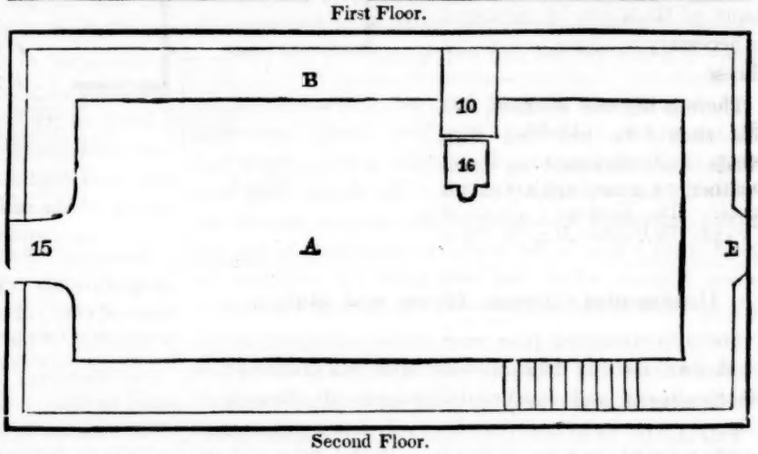
EDITORS OF THE CULTIVATOR—Accompanying this, I send you a plan of a dairy-house, which, doubtless, may not suit the fancy of every dairyman, yet it is thought to embrace as many conveniences as can well be embodied in a building of ordinary dimensions.

The plan is arranged for cheese making, though it will be found equally convenient for butter making, by substituting the furniture necessary for butter making for that described in the plan.

The building should consist of a cellar and one story above; the former, settled about three or four feet below the surface, provided with a drain, emptying if possible into the slop-tub in the cow barn. The wall of the cellar, and both stories, if convenient, should be of stone or brick, laid in lime mortar, and from 18 to 24 inches thick. The bottom should be of water-lime mortar, which will, when properly prepared, soon harden into a level smooth surface, quite imperishable, and be proof against water, and all rats and mice. The pipes, leading to and from the cisterns, &c., should be laid down before the floor is laid, and the mortar carefully fitted to them. The ice-house should be plastered with waterlime, and a little space left between the ice and bottom of the house, to allow the water a small space. The top and side walls of the dairy house should be finished with plaster, by which means a uniform temperature, indispensible to curing cheese well, is more easily secured. Size, 18 by 30 feet outside.



First Floor.



Second Floor.

Explanation.—1. The room for making cheese in, 14 by 18. 2. Closet 10 by 10, provided with shelves, for storing all sorts of furniture.

3. Ice-house, 10 by 10. This should be enclosed by double walls, and great care taken to make both perfectly air tight, and the space may be filled with sand, leached ashes, or almost any dry porous substance; but nothing is so good as air, provided it is not permitted to circulate in and out of the space, because air when not in motion is almost a non-conductor of heat; but since cold air is *heavier* than warm, if crevices are left near the bottom of the ice vault, the cold air contained in it, as soon as the temperature without is raised, flows out, and its place is supplied by warmer air passing in at the same crevices, and an equilibrium is soon restored between the temperature of the air without and within the ice-house, and the ice rapidly wastes away. For this reason the door should be double and open near the top of the vault, or it may have no door on the side and be filled and emptied through a trap door from the upper story. The lower floor must be high enough to draw water from it into the milk vat.

4. General store room and wood cellar, 11 by 18.

5. A stove or furnace of some kind, at which steam is generated for warming milk, heating water, &c. 6. Stairs to the cheese loft. 7. A tin cistern, large enough to contain as much milk as is to be set at once, surrounded by a wooden vat, leaving a space an inch wide at the sides, and nearly two under the bottom, for the introduction of water, either warm or cold, for heating or cooling milk. *a.* Lead pipe leading from steam generator to water in wooden vat, by which the milk is conveniently raised to any desired temperature. By means of the stops in the pipe, the steam may be let in to a water cistern (12) when not needed to heat the milk, by which hot water is always easily kept on hand for cleansing the various untensils. The end of the steam pipe should pass under the center of the cistern, and a board a foot square must be placed between it and the cistern to prevent heating the cistern too hot just when the steam is discharged. *b.* A pipe leading to the sink drain, by which both the whey and water are led off from the cistern, when the cheese is sufficiently scalded. The whey pipe should be large, not less than two inches, so that when the orifice is opened the whey will escape immediately, and thus prevent the curd from sticking together. To prevent the curd from escaping with the whey, a tin strainer of a peculiar form is inserted in the orifice. This strainer is a cylinder five inches in diameter, and as long as the vat is deep; this cylinder is perforated as full of fine holes as the strength of the metal will admit, and to the lower end of it is soldered a tin tube large enough to fit the orifice in the bottom of the vat. While the curd is setting, the orifice is stopped with a plug reaching the top of the vat, smaller at the upper end, and when the whey is to be let off, the tin strainer is slipped over the plug, and into the orifice, when the plug is removed, and the whey escapes; this may be done if the orifice is tapering, and the plug made to fit the lower

part, and the cylinder the upper. *c*. Pipe leading cold water from the bottom of the ice-house to the wooden cistern, for the purpose of cooling the milk.

8. Cheese press.

9. Table for turning the cheese upon. This table should be about two inches lower than the press bed, and a wide board, upon small wheels, is placed upon the table, and the cheese placed upon it, after being pressed.

10. An elevation raised by cords, pullies, and weights, by which the cheese is elevated on the little car, to the loft, when, after being wheeled on the scales and weighed, it is run back, raised to any shelf, and wheeled around to any desired place. This saves all lifting, after leaving the press, till it is sold.

11. Pump or penstock.

12. Tub or cistern for heating water in, by steam.

13. Wooden vat in which the tin vat is placed.

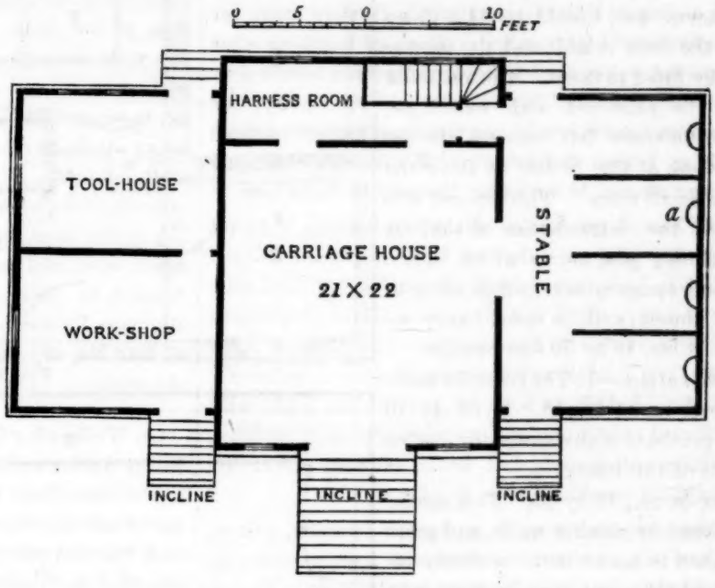
14. Sink provided with a spout, leading all slop, whey, &c., away.

15. Doors—*E*. Windows.

Plan of loft.—A. Second floor. B. Shelves, 30 inches wide, extending around the room. As many of them can be arranged as necessary to accommodate the cheese.

There is but one window, and this should be provided with blinds and darkened in warm weather, to guard against all insects. 16. Scales. GURDON EVANS. *DeRuyter, May* 24, 1851.

DESIGN FOR CARRIAGE HOUSE AND STABLE.



GROUND FLOOR.

Ornamental Carriage House and Stable.

The accompanying plan of a stable, designed for a gentleman on the Hudson, was first published in the *Horticulturist*, and was thus described by Mr. DOWNING:

This stable, is intended to produce a picturesque effect externally, and to contain internally all the convenience demanded in a building of this class. The central portion contains the carriage-house, with space for four vehicles, and a harness-room at the end of it. On one side of this is the stable—the stalls 5¼ feet wide, with rack supplied with hay through wells, over each rack, in the floor of the hay-loft above. A flight of stairs leads from the end of the stable to the hay-loft above, and is placed here in order to prevent any dust from the hay-loft from finding its way into the carriage-house. On the side of the carriage-house are a tool-house and work-shop. All the doors in this stable slide upon iron rollers running upon a piece of plain bar iron above the door. These iron rollers are attached firmly to the door by iron straps, and the door, being thus suspended, not only runs much more easily and freely than if the track were at the bottom, as is usually the case, but the track is not liable to get clogged by dust or other matters falling upon the floor. Besides this, a sliding door in a stable, when opened, gives the largest possible egress in a given space, and can never stand in the way to the injury of horses or carriages passing in or out on either side.

The high-roof of this building gives a good deal of room in the hay loft, and the ventilation on the top keeps this space cool and airy at all seasons. The whole is built of wood, the vertical boarding battened in the ordinary manner.

PORK MAKING WITH CORN.—The unprofitableness of feeding to hogs uncooked corn, is shown by an experiment given in the Genesee Farmer, performed by J. E. Dodge of Wisconsin. Two pigs, a cross between the Byfield and Berkshire, were selected, both alike in every respect, except that one weighed 260 lbs. the other 247 lbs. The heaviest was fed with corn meal mixed with cold water, consumed 425 lbs. and gained 63 lbs. live weight. The other ate 308 lbs. of shelled corn, (with plenty of good water,) and gained only 33 lbs. in live weight. Thus it appears that 8 lb. 5 oz. of meal, and 11½ lbs. of corn, were required for each pound of dressed pork. Had the meal been cooked with about three times its bulk of water, it would not have required half the amount used when uncooked.

The Great London Exhibition.

We make the following extracts from letters received by us from Mr. JOHNSON, the Agent from the State of New-York, to this exhibition. They will be read with interest. EDS.

LONDON, May 6, 1851.

DEAR SIR—Ere this reaches you, you will have seen the account of the opening of the Crystal Palace, which will answer as well as any description I can give. No pen, however, can do justice to the whole display. It has never, in all its parts, been before excelled, and probably never will be. The day was exceedingly fine, and the out-door display magnificent. Within, everything in complete order when Her Majesty arrived, and the representatives of every nation and government, I believe, except Naples, were present, to mingle together their shouts of applause at the opening of an Exhibition of the Industry of all.

The show is visited daily by multitudes. I have not yet had time to look over all that has been arranged; but have seen enough to be satisfied that it exceeds all the expectations I had formed, although they were, as I thought, very highly raised. England has done what we expected—presented her best things in absolute profusion. Agricultural implements and machinery, her engines and machinery for her factories, exceed in finish any thing I ever before saw. Whole establishments have been almost, if not quite, literally brought here.

In the hasty examination of the implements, I do not discover any new ones that we have not heard of—except an iron horse-rake, much like the spring-tooth rake of our country, which is a far more available implement than any heretofore in use—and some new plows of lighter make, and I think an improvement upon those heretofore made. I shall, as soon as practicable, begin with the different exhibitors, and go through their articles, —carefully noting each, and, as far as in my power, ascertaining its qualities, price, &c. &c.

In the manufacturing department—(woolen, cotton, linen, and silk,)—there is a wonderful display—not only in the English, but in the Foreign departments. France has showed herself alive to this great Exhibition, and if John Bull beats her, he must have the credit of doing what no other nation can approximate to. The French exhibition is not nearly arranged; but every day opens some new and wonderful display of fine goods, statuary, &c., which attracts multitudes, who stand and gaze and are lost in admiration at the ingenuity and skill of these Frenchmen. Austria, Prussia, Switzerland, Belgium, &c., have many very fine things. The United States, I am sorry to say, have not fulfilled our expectations, nor justified John Bull's fears, in the exhibition they have made. Not half the space alloted us has been occupied; and France and England are filling up the vacancies. We have, I think it is admitted generally, the finest piece of sculpture—"The Greek Slave," by POWERS. A dying Indian, made from American marble, by a young artist, his first effort—(P. STEPHENSON, Boston,) No. 467 on the Catalogue—is a masterly work, much admired, and the London Times, which says all the unkind things necessary of the United States show, admits it has merit. The best foreign artists here say it has *great* merit; and, so far as I have heard, they admit that the Greek Slave is the best statue exhibited.

Mr. RIDDLE, the U. S. Commissioner, has selected HORACE GREELEY, Esq., as Chairman of the American Judges. I will give the names of all the Judges as soon as they are announced by the British Commissioners.

I saw Col. REID, Chairman of the British Commissioners, to-day, who informed me that *any articles* from our country would be received at any time, and that he was very desirous our country should be better represented: as having travelled there, he knew that the Exhibition did not fairly represent us, or our progress in agriculture, manufactures, &c. I wish the collection of wheat in the straw in the Agricultural Society's Rooms could be sent here in good condition; and also samples of our hay and manure forks, shovels, spades, &c., of which there are a few, but very indifferent indeed. A show, too, of our manufactured goods should be made. The shawls from West Troy, broadcloths, &c., ought to be here.

I was at Windsor Castle yesterday, with a party of Americans, and was much gratified with the examination of the State apartments, splendid paintings, &c. We went through the Park, called at the Royal Garden at Frogmore, and saw Mr. INGRAHAM, the head gardener, to whom I had a letter of introduction. We received every attention; but had not time fully to make thorough examinations. Here are grapes in great profusion, ripe strawberries also, and everything in perfection, and worthy of the most critical examination. I shall visit there again soon, and am promised admission, through Gen. WEMYS, to visit and examine the stock of his Royal Highness Prince Albert, and the poultry establishment of Her Majesty, one of the most perfect, probably, in the world.

London, May 16, 1851.

On Wednesday I attended the weekly meeting of the Royal Agricultural Society, and heard two very interesting lectures from Prof. Way and Prof. Simonds, on the use of salt as a manure and for animals. Professor Way took the first part, and gave a brief history of the facts recorded as to salt, and of its chemical qualities, and the manner of its action, which he said was an indirect one, not direct. Prof. Simonds took the latter part of the subject, which he very clearly illustrated, showing the advantages of salt for the use of animals, and concluding as a general rule, it would be well to give free access to it, rather than give it at intervals. As a lecturer, Prof. S. is much the most interesting—as he is a ready speaker, and explains with great clearness his subject. Prof. Way is rather hesitating in his manner, but clear in the illustration of his subject, and very careful in stating his propositions and conclusions. The lectures were followed by a discussion, in which Col. Challoner, Mr. Fisher Hobbs, Mr. Mechi, Mr. Huxtable and others, took part —resulting, as do similar discussions in our own country, in a great variety of opinions in regard to the use of salt, directly contradictory to each other. The meeting was a very interesting one, lasting about two hours. Earl Ducie and several other distinguished landlords were present.

The judges on the part of the United States were appointed on Monday, and several of the committees, or

jurors as they are called, are at work daily. I am on the committee on agricultural implements; but the English judges had a trial of their implements, and one or two Belgian ones, *before* the exhibition opened—and I am informed have made up their awards. Mr. Pusey is chairman. I informed him that we should insist upon having our implements tried as soon as we had persons on the ground to attend to them. He has not called his committee together yet, but informed me that he was in favor of testing our implements; but I should fear that the decisions already made might be embarrassing.

The gentlemen selected as the English and foreign jurors, are generally very intelligent, and so far as I have been made acquainted with them, are disposed to do even justice to all. The English have a decided advantage, as their jurors have been selected from those best informed on the subjects submitted to them, while the other nations have to depend upon gentlemen present, who may not, in all cases, be best qualified for the examination of the subjects on which they are called to judge. It is expected that it will take the jurors from four to six weeks to complete their examinations, though I hope it may be finished sooner. Every facility, so far as I can discover, is most readily afforded by the British Commissioners, to have a fair hearing on every matter submitted to them.

I went to day with one of the jury on articles used for food, through all the grain divisions, and we came to the conclusion that the best samples of wheat and corn exhibited, were in the United States exhibition. None, except the wheat from Australia, was equal to some of our samples. The Australian wheat, the same kind precisely as that we have at the Rooms, and which Mr. Thompson of Long Island, raises, was very fine indeed.

The Canadian wheat was very good in some instances, though most of it was of mixed varieties, which detracts from its appearance. A sample grown in England, called the Prolific, I believe, is marked as weighing 67¼ lbs. per bushel, and was very fine. The yield of Mr. Hotchkiss, of Lewiston, in our state, 63½ bushels per acre, exceeds in quantity any on exhibition, and the sample, as you know, is a very fair one. Mr. Bell of Westchester county, has some very choice specimens of grain. A sample of White Spring-wheat, excels any I have before seen, and his specimens of Winter-wheat, White-Flint, Soules and Mediterranean, are remarkably good. In barley and oats I think the Scotch and English excel us. Their grain is much heavier than ours, and the malsters say that our barley does not malt as well as theirs. How this is I do not know. Our samples of buckwheat are better than any other which I saw. I have not had an opportunity of examining very critically, the flour as yet; but I think some of ours is equal to any I ever saw, and such is the opinion of an intelligent Scotchman from Edinburgh, who has charge of a stand filled with the products of Scotland.

The Highland and Agricultural Society of Scotland have a very extensive show. I should judge that they had removed their entire Museum here. They have wax preparations of potatoes, turneps, peas, &c., that are very life-lide, and their exhibition of grain in the ear is very extensive, and is deserving, as it receives, much attention. Samples of forty day maize, ripened in England, are on exhibition, and appear very well. The ears not as long as ours, but the corn is perfectly ripened—the husks exhibited showing that it reached its full maturity. In grass seeds the exhibition is very extensive, and many of the samples are unusually excellent. Millet, rape, and other seeds, are on exhibition. From the East-Indies, Australia, &c., there are large contributions of their products, some of which are worthy of especial notice, which doubtless they will receive. I regret that we have not a more extended contribution in this department, as I am sure we could have added largely to our exhibition, and have satisfied all that we can raise of the first quality the best of grains used for the sustenance of man or beast.

Last Monday the Smithfield market had the finest lot of cattle ever exhibited, except at the Christmas show, and nearly equal to that. It was a sight that a lover of good beef and mutton would go a long way to see. The Scotch were ahead of all. The more I see of the Galloways and West-Highlanders, the better I am convinced that there are no cattle in this country that compares with them for beef. The Short-horns, Devons and Herefords, are remarkably fine; all the cattle are better fattened than I have ever before seen in this market, or in any other.

I saw a day or two since, at Sion House, and at Kew also, the "Victoria Regia," and it is a sight worth seeing, truly. The leaves of the plant at Sion House were, I should judge, nearly three feet in diameter, and would, I doubt not, as represented in the plates we have seen, support a child four or five years old. The water is kept in agitation by a small water-wheel on top of the water, supplied by a lead pipe, which conducts the water to the tank. The plant has to be *cheated*, they say, by this operation, believing it is in its native waters, which are constantly agitated.

Sion House, one of the Duke of Northumberland's seats, is near Brentford, famous for John Gilpin's race, and the old town looks as if John might run again, and with equal eclat. The house and grounds are thrown open to the public, and tickets are procured of the foreign ministers, or at book-stores, which allow free access. There are about 300 acres connected with the gardens and parks. The paintings in the house are from the old masters, comprising portraits of Charles the First and his family, Charles the Second, the early Dukes of Northumberland, &c. and are, many of them, of rare excellence. These paintings occupy the walls of three large rooms. The library is 120 feet long, facing the lawn and park, which extend to the Thames, and with a far reaching view beyond, over the country, studded with country-seats, &c. It is one of the finest views of the kind I have yet seen. The drawing room, dining room, and vestibule, are richly furnished, and everything that wealth can supply to a refined taste, seems here to find a place. The duke visits here at this season three days in the week; the rest of the time in town. He does not occupy it more than six weeks in the year, I am told—the rest of the time being spent in the town, or at his splendid estate in the interior of the kingdom.

The garden is filled with every variety of plant, flower, and shrub that can contribute to its beauty. His greenhouse of palms and tropical plants, is very rich in its

collection and arrangement. He has a fine breed of cattle, and choice sheep, grazing on his pastures on the banks of the Thames. His stock mostly Short-horns, interspersed with Alderney or Jersey cows for milk. The sheep are South Downs and Leicesters.

Kew, a royal residence, is also thrown open to the public so far as the grounds and mansion are concerned. The Palm-house here is of glass, somewhat in the style of the Crystal Palace. Here almost every variety of these trees are to be found. The bread tree bearing its fruit —the India-rubber tree, &c., are here to be seen. This house is warmed, I understand, by twelve furnaces, and the tall chimney which conducts the smoke away, stands, I should think, from 40 to 60 rods distant. These grounds are handsomely laid out, and the green-houses are well filled. The "Victoria Regia" is not as large as at Sion House, but still outvies all our ideas of the Water lilies. Beds of Rhododendrons are scattered through the Kew grounds, which, when in bloom, must produce a splendid effect. The museum of curiosities here, established by Sir W. J. Hooker, who was present when we visited it, is a very interesting collection. We went to Richmond Hill, and I saw from the coffee-room of the Star and Garter, the splendid view which so captivates the English, and I doubt not everybody else who sees it. The day was fine, and the country seldom seen to better advantage than when we were there.

Pulling out Stumps.

EDS. CULTIVATOR—You know many men when they do any thing which they think is important, like to let it be known; therefore I will tell you of a large stump operation I have lately gone through with. I hired Mr. James Haire, from Yates, county with his stump machine, three hands and one yoke of oxen, at six dollars and eighty-eight cents per day, and have had about 800 oak and black walnut stumps pulled. They were mostly very large—some of them brought up the earth from 15 to 17 feet square, on the surface, and from five to six feet deep in the center, and three to four feet deep at the outsides. They were drawn by a screw. The screw went up through a frame, and the nut on the top was in a horizontal wheel of wood, which was turned by horses or oxen, drawing up a slack rope of three hundred feet; thus raising the screw, which was attached to the stump by a large chain and clevis to the screw, and that raised all we tried but two. It certainly has the greatest power of anything I ever saw; if the chain is strong enough, two yoke of oxen, or two pair of strong and true horses, I think will raise any stump. My stumps had been cut from 10 to 14 years, yet some of them came very hard and brought an immense quantity of earth. Where the small *roots were* decayed, even if the tap root drew up five to six feet and over, from below the surface, they brought up little earth, and the work was done in a short time, but those which brought much earth, took a great deal of labor to get the clay cleared off them, while the stump was suspended, to get the earth back into the hole. Besides, no number of teams could have turned them over, if let down with such a mass of earth. After they were cleaned I find it takes six strong horses to draw some of the largest on a stone-boat. Now for the cost, as many of your readers may want to know. I paid Mr. Haire $114.50; my own team and one man, were worth about $25—making $139.50, besides board and keep of Mr. Haire's team. But the cost would have been much more, had we not got out some 200 or more by the oxen and horses without the aid of the machine.

If any farmer wishes to undertake such a job, I can safely recommend Mr. Haire as a sober, industrious go-a-head man, and one who, I believe, understands the business thoroughly. JOHN JOHNSTON. *Near Geneva, May* 23, 1851.

Farm Fences.

EDS. CULTIVATOR.—The subject of farm fences is one which every farmer should be interested in. Every farmer knows well that a good fence is what he likes to see around his fields, and those of his neighbors. There are but few of us that have not suffered in years past by poor fences and breachy cattle—*of course*. As to the kind of fence to be buit, all depends upon circumstances and location. Any kind of fence looks well, when well built and in good repair. Probably the most substantial and lasting of all farm fences, are built of stone. On most farms in New-England, more or less stone fence can be made.

But the manner in which these fences are often built, is another consideration. We often see single walls laid up with only one tier of stone, and where they have been built for years they often have a zigzag or worm fence appearance, and how they stand at all, is a question. Often, where such fences are made, not one half of the stone are taken from the field, which is bad economy, to say nothing of the fence. Farmers should remember that when a field is cleared thoroughly of surplus stones, and the stones laid up into good substantial walls, they have gained two important points. First, they have cleared the land for good cultivation, and second, they have a good fence, which, if well laid up, will last a lifetime. Walls four and five feet wide at the bottom, and as many feet high, with cap stones on top, projecting over three or four inches on each side, will turn sheep pretty effectually.

In many parts of Connecticut, old rail fences may be seen three or four feet high, while the stones are so thick that you may travel on them from one field to another. I consider it the most miserable and shiftless economy in the way of fences and cultivation that the Connecticut farmer has yet accomplished. The most durable rail-fence, to my mind, is the old "Virginia worm fence." When this fence is well laid up, six or seven rails high, with long poles or riders staked on top, hardly any wind will level it to the ground. You cannot work up to this fence quite so close, as to a straight fence. But for pasturing or mowing, it takes up but little or no more ground than the post fence. The posts of the straight fence which I built ten and eleven years ago, are now rotting off, and the fence is falling down. Some farmers say that fence posts will last double the time by setting the posts top-end down, but having never tried it, or never seen it tried, I cannot say as to the fact.

Post and board fence is built by many farmers, and it makes a much neater fence than rails, and is often quite as cheap, and much lighter in construction. Wire fence

is now talked of, and some fence of this kind has been built, and if it be lasting, and the weather does not affect the wire, I think it will come into general use, especially on the western prairies, where timber is scarce. I have been told that a cheap composition of coal-tar laid over the wires, will prevent rust or any action of weather on the wire. Where posts can be made of stone or iron, and the expense will admit of it, this fence must be lasting. A prairie farm fenced with wire, would make a grand appearance, as at a short distance nothing would be visible but the posts. But some time must elapse before this fence can be thoroughly tried as to durability. L. DURAND. *Derby, Ct., March* 12, 1851.

Sheltering Manure.

EDS. CULTIVATOR—Within a year or two past I have met with several articles in your paper, recommending the practice of keeping manure under cover, in order that it may be protected from the action of the sun, wind and rain.

Considering the reasoning on the subject good, I concluded to adopt the practice, which I accordingly did, during the past winter, but on hauling out my manure this spring, I found it not a little "fire fanged," and I observe that several of my brother farmers have made use of your paper of late as a vehicle for the same complaint. Now this won't do. We can't afford to have the "gold dust" of our farms thus diminished in bulk, and deprived of half its efficacy.

I am still of the opinion that it is desirable that dung should be kept under cover, but unless some plan can be devised to prevent it from heating when thus housed, we must return to the "old way" of our forefathers, and suffer it to lie scattered about the barn-yard, for I do not believe that sun-beams, rain-drops, and north-westers, will do so much harm to it as the violent heat engendered by this close confinement.

Who will help us out of our trouble? Were I a chemist, I might discover a remedy, but as I am not, I would request some of the scientific contributors to your columns, to come to our aid in this dilemma. Would a plentiful and frequent admixture of gypsum, which is recommended to prevent the escape of ammonia, avail anything as a preventive against the evil of which I have been speaking? W. C. A., *Tioga, N. Y.*

The fertilizing principle of common yard or stable manure, may be wasted in various ways,—as by the soak or washing of rains, by being frozen and thawed during exposure to the air, by being alternately wet and dried, by *violent* fermentation, &c. Now the great object, of course, with this article, is to keep it in the most perfect state, or in a situation where it will be subject to least loss. The best situation is probably a cellar. Here the liquid and solid parts go together, and thus, with the moisture of the mass, and the low temperature in which it is kept, there is not much liability of a wasting heat taking place, except with the drier kinds of manure, as the excrements of the horse and sheep. But the temperature of the manure-heap under any circumstances, should be watched, and if it rises so high as to *consume* the substance, or give rise to ammoniacal fumes, it should be checked by an addition of more water. It is very easy to add this, especially in a cellar, by means of spouts from a pump or aqueduct. For an answer to the query in regard to mixing plaster with manure, see another article in this number. EDS.

Erection of Fences.

EDS. CULTIVATOR—In the January number of The Cultivator, there is a communication in reference to the posts of wire fences heaving out by the frost. I have some wet land through which I made a board fence the last season; it is as firm as the day it was put up. Near the bottom of the posts, bore a two inch auger hole, thro' which put a pin two feet long at right angles to the way the fence runs. You can fill the post-hole up to the pin with earth if you wish; fill up the rest with stones. Around some of the posts, I put some six inches of earth at the top of the ground, as an experiment. They stand well enough, except the earth filters down through the stones. I have had fence made as above to prevent its being taken away by the floods, when I lived on Muncy Creek. Frequently the water was over some of it from three to ten feet. It has stood in this way for many years, and will stand till it rots off.

If there is much of a current, put a large stone at the bottom of the post, on the upper side, and one at the top on the lower side of the post; this will generally keep the fence right; but where there is back water that you have to contend against, the anchoring of itself will answer. When we adopted this plan, there was an end to resetting and fishing up fences, after a freshet in the river and creek. I think it will answer in spouty land, but cannot tell, having only one year's experience. So far, it works as well as I expected. It *will not* do to put earth directly on top of the pin, if you do it will rise till you come to the stones. B. M. E. *Mansfield Farm, Wolf township, Lycoming county, Pa.*

Time for Cutting Timber.

EDS. CULTIVATOR—It is a matter of great consequence to the agricultural interest, to ascertain the best season to cut timber to insure its durability. On this subject, there has been a diversity of opinion, and after 40 years experience I have changed my own opinion. I early thought the best time to fell timber was the winter, before the sap began to move in the spring. I adopted this opinion, because, at this season, the process of vegetation in most matured, and the softer parts of the wood most hardened. There was one fact that confirmed me still more. I often observed that twigs and small limbs, cut in winter, were more durable than those cut in summer. Those cut in winter soon dry up and harden by the warm weather of the spring, and will endure two or three years without material decay. But twigs cut in the heat of summer, when the tree is full of sap, and the leaf of fresh and vigorous growth, do not readily part with their sap. The fervent heat of summer causes an immediate commencement of the work of decay—the bard turns black, is soon covered with a small fungus; and by autumn, the decay is so far complete that the twigs become very brittle, and break by the smallest force.

Seeing these facts, I was led to conclude, that the winter was the most favorable season for cutting timber.

But the two cases are not parallel, and I overlooked some facts that ought to be taken into the account. The reasoning applied to the cutting of the twigs, will not apply to the cutting of the trunks. The trunks cut in winter and early spring, do not dry so readily as the twigs on the approach of hot weather, especially if left unsplit; but on the contrary the sap begins to flow, and very often new shoots put forth on the approach of summer, showing that the trunk is very much in the same state as it would have been if left standing. In this state the extreme heat of summer causes the commencement of speedy decay. This same timber if it had been suffered to stand, till the vigor of the summers heat began to abate, say till the last of August or first of September, would have had the advantage of a partial maturity. This maturity would still progress for a while after the tree was felled, and become perfected by the usual time of the falling of the leaf. If the timber were split or hewed at the time it was felled, it would be parting with its sap and drying up during the autumn, so that there would be but little tendency to decay in the first season; and before the approach of the next summer it would become so dry and well seasoned, as not to be subject to decay from its own sap and internal moisture.

The decay of timber is owing to the combined influence of heat and moisture, and the rapidity of the decay is in proportion to the degree of heat. A wet stick in winter and one kept perfectly dry in summer suffer no material decay.

I was however led to a change of opinion, as to the best time of felling timber, not by the foregoing train of reasoning, but by observing that there was a material difference in the durability of my fences, made of the same material, when cut at different seasons of the year.

I have had land cleared at almost every season of the year, and fenced by materials on the land; and sometimes not of the most durable kinds of timber. After some years of observation, I found contrary to my expectations, that those fences that were cut in winter and spring, began to fail some years sooner than those that were cut in the latter part of summer. The difference was most visible in the most perishable kinds of timber, such as elm, poplar, and basswood. I then made a diligent search for the cause of this difference, and came to the conclusion before stated. If my reasoning is incorrect, I would be much obliged to any gentleman that will give a more satisfactory solution. It is desirable to know, not only facts, but the principles on which they are founded. E. D. A.

Remarkable Swine.

The *Maine Farmer* gives the weight of two uncommonly heavy hogs. One of them was fattened by J. W. SAWTELLE, of Norridgewock, Me.. and was killed on the 24th April last. His age is said to have been just two years, and his dressed weight *nine hundred and thirty pounds*, exclusive of rough lard, which weighed forty pounds. The other was fattened by JOHN SMILEY, of Augusta, Me., and was killed on the 12th of April,—"being just ten months old to a day," and its dressed weight was *five hundred and six pounds*. Mr. SMILEY gives some facts in regard to the mode of fattening this pig, which are deserving attention, and we take the following from the account in the paper referred to:

The amount of food consumed in fourteen weeks, was seventeen bushels and twelve quarts of corn; and the gain in weight was two hundred and ninety-one pounds, being a small fraction less than three pounds per day on an average. Sometime between February 1st and February 15th, Mr. Smiley fed six quarts of molasses to his pig with his food. This destroyed his appetite, and for eight days following he ate but very little—perhaps not more than a pint a day—and in consequence, the gain for two weeks was only twelve pounds. From the 4th of December to the 1st of February, his food was exclusively boiled corn. After that, his food was principally in the form of meal. For the last two months he ate about two quarts of charcoal daily. Mr. Smiley has been careful in weighing the pig and measuring his food, and he holds himself ready to prove his statements by credible witnesses. He is of opinion that this pig, in four months, gained on an average, one hundred pounds of "round hog" per month. The following is Mr. Smiley's statement of the live weight, gain, and amount of food consumed by his pig:

	Live weight.	Gain.	Amount of food.
Jan. 4,	278 pounds.		
Jan. 18,	330 "	52 pounds.	73 q'ts corn.
Feb. 1,	382 "	52 "	71 "
Feb. 15,	469 "	87 "	119 "
March 1,	481 "	12 "	36 "
March 29,	557 "	76 "	196 "
April 12,	569 "	12 "	61 "

The pig was not fed for about thirty-six hours before he was slaughtered. The difference between the live and dead weight is exhibited below:

Dressed pig,.....	506 pounds
Rough fat, heart and midriff,.....	23 "
Blood,.....	13 "
Hair and intestines, ...	27 "
Live weight, ...	569 "

The clear pork weighed 262 pounds; the hams and shoulders 101; and the feet and upper part of the head, 21 pounds.

Ayrshire Cattle in Berkshire County, Mass.

The report of the North Stockbridge Farmers' Club, published in the Pittsfield *Culturist*, speaks of the introduction of the Ayrshires into that section as follows:

The Ayrshires have done well here. They are all that the most sanguine breeders could reasonably expect or hope for. Several years ago, we had among us an Ayrshire bull, imported by the State Agricultural Society. His *stock* has proved good, and as milkers, much better than the natives. Five years ago, S. G. WARD, Esq., then of North Stockbridge, now resident in Boston, imported an Ayrshire bull and heifer, carefully selected from the finest and choicest of that family. To the intelligence, disinterestedness, liberality and enterprise of Mr. WARD, the farmers of North Stockbridge and Lenox are under obligations, which, though adequately appreciated, can never be fully discharged. We regret, most heartily, that he was constrained to withdraw from an occupation in which his head, his heart and his hands were actively employed with so much usefulness to the farmers in his neighborhood. Of the superiority of Mr. WARD's stock, there is no doubt. At our show of cattle at the Greenwood Farm in Lenox, where the best old and young were brought together and compared, the appearance of those derived from this stock evinced their decided superiority. Some allowance must always be made for the greater pains taken with a breed from which it is proposed to propagate, yet, there are points and marks of excellence, which good keeping cannot produce, nor bad keeping efface in a single generation—points which are apparent and manifest—good qalities which are lost rather by degeneration than temporary omission of due care,—which are

of and in the breed, and disappear only with its change. The valuable qualities and characteristic points of the Ayrshire were prominent in the descendants from Mr. WARD's importation. The great object of your Committee was to ascertain as well as could be done, the merits of the several breeds.

Mr. DANIEL BARNES, who has on his farm fine blood Ayrshires from Mr. WARD's stock, exhibited four two years-olds, of the half-blood, of great excellence. If they were fair average specimens of the cross, we feel entirely safe in recommending it to the special attention of breeders of fine cattle. Mr. RICHARD H. WALKER, exhibited eight yearlings, all with more or less of Ayrshire blood, which attracted by their good points, the attention of your committee, and every one upon the grounds.

The conclusion to which your committee were brought, by their inspection of the stock upon the ground, is, that as milkers and feeders the Ayrshires are worthy the attention of graziers and dairymen, and are suited to our soil and climate.

The Great Exhibition---English Agriculture.

Since the receipt of Mr. JOHNSON's letters of the 6th and 16th of May, (which are given on other pages of this number,) we have received the following, which we are happy to lay before our readers:

London, May 27, 1851.

EDITORS CULTIVATOR—Since my last, the exhibition has been full of interest, and the people come up in great numbers; and its success, in a money point of view, seems no longer doubtful,—though the result of yesterday's receipts, from the first day of shilling tickets, has not been as encouraging as was expected. To pay the expenses of the Exhibition and purchase the building, would require £300,000. Of this sum £65,000 was raised by subscription,—£65,486 have been received for season tickets, and up to Saturday night last, upwards of £40,000 received at the door for single tickets—making upwards of £170,000 realized in three weeks. Should the receipts average hereafter £1,500 per day, it will pay the £300,000, and leave a surplus for other purposes.

The goods are not fully arranged—some of the departments not yet completed. The Russian goods arrived last week, and are being arranged; and several other departments are completing their arrangements. Some few additional articles are arriving from the United States, and our exhibition is attracting more interest. The grain reapers, plows, &c., and the machinery, are being examined with interest. The grain reaper of McCormick attracts much attention, and one person could be constantly employed in answering inquiries in regard to it. An English farmer and member of Parlirment, said to me a few days since, on my explaining the reaper to him, that if it succeeded here as it had done in America, the cost of the whole exhibition would be amply repaid by the introduction of such an implement into Great Britain.

I took a ride, a few days since, to a farm in Surry, about 18 miles from town, owned by Mr. Combe, a large brewer of the town, and a partner in the firm of Combe, Delafield & Co. Mr. Delafield is a relative of the respected President of our Society. He has a fine herd of Short-horns and is to have a sale of about 40 head on the 10th of June, by Mr. H. Strafford. Mr. C. has a farm of 800 acres, most of it freehold. It is clay soil mostly and very moist, and has required much expense in drainage—at the rate of about £7 per acre. It is now, however, in good condition, and supports a large stock of cattle and sheep. When Mr. Combe first introduced Short-horns upon his farm, it was said he could not succeed; but the result has proved that Short-horns do well. He has 92 head of cattle. His overseer, Mr. John Giles, is a capital man, and the stock are in fine condition, and many are very choice animals. He has strains of Mr. Bates', Lord Ducie's, Earl Spencer's and Mr. Booth's stocks, as well as other distinguished breeders. He is breeding for a medium sized animal, and has some animals that are not easily excelled. Some of his heifers are, in my judgment, equal to any I have seen brought over to America, and would do no discredit to any breeder, and I think will probably be sold at fair prices.

He has 1050 sheep fattening on pasture and turneps. They are Hampshire Downs, crossed with South Downs, and Cotswolds crossed with South Downs. He gets about 10 shillings ($2.50) per head advance on his sheep, besides the fleece averages 6s., which pays very well. The farm is more profitable for grass than grain, though a considerable breadth is kept in grain yearly.

The farm buildings are admirably arranged, with all that neatness and completeness of arrangement, which is so important in a large farm. The stables and yards for the cattle, sheep, and swine, seem almost perfect, and the dairy cows have a most comfortable and convenient building, where every facility is had to make work light. Water is supplied in the manger to every cow, the troughs or mangers being of iron,—the floor of brick, and an iron gutter in rear of the cows to carry off the urine. A finer show of cows I have never seen than 32 Short-horns in this stable, put up for milking. Mr. Combe has several cows that are very large milkers. I design to attend his sale of stock—as it is the first that is to come off in this part of the kingdom.

Mr. Combe keeps 20 horses for his farm work—four large sized dray horses for drawing manure from town, and taking down sheep, cattle, &c. to market; the others lighter animals, more like ours than we often see here, though I was informed by Mr. C.'s overseer that the lighter horses are found to be much the most profitable for farm work, and are coming into use to a considerable extent.

The neatness with which farms are managed here, strikes an American with surprise. Everything is attended to in time, on a good farm; the plowing well done; the ground in all respects well prepared; the seed drilled in, generally, (and I think this system is gaining,) and when the weeds appear, they are carefully eradicated, giving the grain the full benefit of the nutriment in the soil—which properly belongs to it. Garret's horse hoe performs among the drilled grain, the work formerly performed by old men, women, and children. It is a capital implement, and I have seen it at work here, and can testify to its admirable adaptation to the purposes for which it is used. It might be somewhat simplified, but as it is, I conceive it a very valuable implement for the farmer.

The hauling work on the farm here, is performed with carts mainly, instead of wagons, as with us. The old fashioned carts with broad wheels, the felloes six to eight

inches wide, and with heavy awkward thills and boxes, are a very cumbersome vehicle, but the wagons being no better, the former have long been used in preference. The style of carts which are now being constructed is much better. They are much lighter, better arranged, cost less, and with them much more work can be done. They are generally of what is called, I believe, the Scotch pattern, many of the best having come from Scotland. There are some very excellent ones on exhibition at the Palace, and but few if any of the real old ones are to be found except on the farms in the country. They are certainly here preferable to wagons. Whether in our country they would be equally advantageous, at present, may perhaps be questioned, though I have little doubt, that if more frequently used the labors of our farmers would be much lightened as well as the expense diminished.

Mr. C. estimates his farm at £60 per acre. He has no tithes, and the taxes of all descriptions amount to about $2.50 per acre. They manure very high here—and prepared manure. guano, lime, bone-dust, phosphate of lime, &c., are very extensively used, and with great profit. Much complaint exists as to hard times among the farming class, but they appear to be doing as much as at any period to keep up their farms, and the style of farming operations is certainly improved from what it was when I was here in '46.

The "Banner Wheat" a Misnomer.

We have of late years seen frequent accounts of the success which has attended the cultivation in Maine, of a variety of winter wheat called there, the "Banner Wheat." Dr. HOLMES, in a late number of the *Maine Farmer*, shows that this wheat is the "Kloss's White Blue-Stem," which originated in Pennsylvania. It appears that the first account of this wheat was given to Mr. Ellsworth, then Commissioner of Patents, by Hon. John Snyder, who in 1843, sent Mr. Ellsworth a bushel of the wheat for distribution. He says—"The bushel of wheat I have sent you is the product of my county—Union—Pennsylvania. Its origin is briefly this: My neighbor, Christian Kloss, saw in his field of blue stem wheat, a single top-proud head; he was struck with the contrast between it and the wheat of the whole field, this being the only white head in it, and much the largest. At harvest time he secured the head and seeded it in his garden the coming fall; I do not recollect the time, perhaps six years since—(1837.) He divided the next years' produce among his neighbors, and last fall there were one thousand bushels of this seed sown; one farmer had four hundred bushels. It is called *Kloss's White Blue-Stem.*"

STRIKING ILLUSTRATION.—At the Agricultural Convention held in Boston in March last, the presiding officer, Hon. M. P. WILDER, in the course of an able speech showing the advantage of improving agriculture, gave the following example: "We have 150,000 cows in this Commonwealth. Suppose science enable these, or improved breeds, to yield *one* additional quart of milk per day; this, at three cents per quart, would increase the productive capital of the State $4,500 per day, or $1,642,500 per year; or if two quarts per day, a gain of more than *three million dollars* annually."

ANSWERS TO INQUIRIES.

TAN BARK.—S. B., Edgefield, S. C. Tan bark contains matter which is valuable as a manure, but while it is fresh, it also contains so much acid that it is injurious to vegetation. It must be thoroughly decomposed before it can be used on any crop to advantage. The best way to prepare it is to mix it in a heap with strong wood ashes, or a solution of potash. The alkali will destroy the acid and cause the mass to heat, which will bring the food of plants into a soluble state.

COWS CALVING IN THE DAY TIME.—D. B. K., Plainfield, N. J. The custom to which you allude, as prevailing in Holland, in regard to leaving off milking pregnant cows on a particular day, in order to insure their calving in the day time,—has sometimes been adopted in this country. We have known some instances of cows being tried by it, but the result did not support the theory. We cannot see why the particular day or hour on which a cow is milked for the last time, should cause her to calve in the day time, any more than in the night.

BINDING THE VOLUMES OF THE CULTIVATOR.—"An Old Subscriber," Hartford. We can have the volumes of The Cultivator bound at twenty-five cents per volume; but in many instances it is inconvenient for subscribers to send them without incurring the expense of express charges, which are not less than twenty-five cents, each way, for any package.

MOWING MACHINES.—"A Subscriber," Champlain, N. Y. Ketchum's mowing machine is said to work well in grass that stands up fairly and is not thick at bottom. Fine, matted grasses are said to choke the machine. We have seen it used in a light growth of clover, where it worked tolerably well. We do not know the price of the machine. Address S. KETCHUM, Buffalo. E. J. BURRAL, of Geneva, N. Y., has a machine of this kind, but we have not seen it operate, and do not know the price.

BERKSHIRE PIGS.—S. G. S., Gravesend, L. I. We know of no stock of this breed for sale, except that advertised in our June number, by Mr. SIMMONS, of Yonkers. We noticed that Col. P. R. PAULDING, of Tarrytown, exhibited a good Berkshire boar at the show of the Westchester county Ag. Society, last fall.

FOUL IN THE FOOT, OR HOOF-AIL.—S. C., Stillwater. This disease in cattle is not *identical* with foot-rot in sheep. At least some attempts made by a Swiss veterinarian, by inoculating sheep with the virus of hoof-ail, produced no effect. Hoof-ail will, however, generally yield to similar treatment as is best for foot-rot. When the animal is first attacked, the foot should be cleaned with soapsuds. Blue vitriol (sulphate of copper) either in powder or solution, (the latter preferable,) should then be applied to the affected part. If the disease is taken in season, one application will generally effect a cure. Other substances are sometimes used—as corrosive sublimate (chloride of mercury,) and butyr of antimony. The former of these is, however, a strong poison, and it is hardly safe to use it unless the animal is kept in the barn for several days.

TURNEPS.—W. C. The English turnep, of several varieties, may be sown as late as the first of August, with success. The white Norfolk is a productive kind, but will not keep as well as the ruta-baga.

NOTES FOR THE MONTH.

POSTAGE OF THE CULTIVATOR UNDER THE NEW LAW.—To any post-ffice

Within 50 miles of Albany,.....	5 cents *a year.*
Between 50 and 300 miles from Albany,.....	10 cents a year.
Between 300 and 1,000 miles,.....	15 cents a year.
Between 1,000 and 2,000 miles,.	20 cents a year.
Between 2,000 and 4,000 miles, ...	25 cents a year.

The above are the rates as fixed by the new law, which goes into operation on the first of July, 1851.

ACKNOWLEDGMENTS.—Communications have been received, during the past month, from D. B. K., S. W. Johnson, John Johnston, A Subscriber, Wm. Weeden, An old Subscriber, G. Evans, Prof. Norton, G. W. Edmundson, Alex. Rives, F. Holbrook, A Constant Reader.

BOOKS, PAMPHLETS, &c. have been received as follows: Report of the Commissioner of the Patent Office for 1849, Part II, Agriculture, from Hon. T. EWBANK, Commissioner.——Official Catalogue of the Great Exhibition of the works of Industry of all Nations, from B. P. JOHNSON, Esq.——Dixon and Kerr's Ornamental and Domestic Poultry, from E. H. BUTLER & Co., publishers, Philadelphia.——Proceedings of the Clinton Co. Ag. Society at its annual meeting, with its Premium List for 1851, from J. BATTEY and W. KEESE.——The Old Red Sandstone, or New Walks in an Old Field, by Hugh Miller, author of Foot-prints of the Creator, &c., from GRAY & SPRAGUE, booksellers, Albany.——Proceedings of the Am. Pomological Congress at Cincinnati, from Prof. MATHER, Sec. Ohio Board of Agriculture.——Farmer's Guide, Part 17, from L. SCOTT & Co., publishers, New-York.——Annual Report of the Regents of the University, from Dr. T. R. BECK, Sec.

PHOSPHATE OF LIME.—Prof. EMMONS has had a quantity of this article, from the quarry at Crown Point, prepared for use. The rock was first pulverized with sulphuric acid, and then dried off by mixing with wood ashes. It is thus brought into a state convenient for application. Prof. E. is desirous that extensive trials should be made with this article during the present season, and has left several barrels with Messrs. EMERY for distribution. We hope the opportunity will be improved, to give this manure, which has proved of such great value in Europe, a fair test here. We will here correct an error made in a previous notice, in regard to the quantity of phosphate contained in the specimens from Crown Point. Prof. E., as well as well Prof. NORTON, assures us that it contains from *eighty* to *ninety* per cent.

WRITINGS OF THE LATE TIMOTHY PICKERING.—Hon. JOHN W. PROCTOR, whose very interesting sketch of Col. PICKERING, was given in our March and April numbers, writes—"I have received a letter from a gentleman in Philadelphia, familiar with the records of the Philadelphia Society for Promoting Agriculture, established 1785, of which Mr. Pickering was Secretary and Samuel Powell was President. He says that on looking over the books kept by him, he was astonished to find that he had not only made full and complete minutes of all the doings of the society, but had prepared a large *folio volume* of documents entirely in his hand writing, arranged with great precision, which have not been published. This is a fact, as is remarked, 'among the labors of this interesting man, in his capacity of farmer, that should not be omitted,' and I am pleased to annex it to others that I have communicated."

FAT CATTLE FROM KENTUCKY.—Since the completion of the railroad from Cincinnati to Cleveland, many of the droves of fat cattle designed for the New-York and Boston markets, have been taken this route to market. Formerly they had to be driven across the Alleghany Mountains—sometimes making a journey of more than a thousand miles, and, though traveling at the rate of only ten to fifteen miles a day, at a great loss of weight, especially in the animals which were fattest at the start. We have noticed several droves of excellent cattle from the interior of Kentucky, which were transported over the railroad from Cincinnati to Cleveland, thence by steamboat to Buffalo, and thence to the Hudson river by railroad. Here they either take boat for New-York, or cars for Boston. They arrive here in fine condition, and must make a great saving in weight over the old mode of reaching market.

ENGLISH VS. AMERICAN IMPLEMENTS.—The London *Economist* has an article on the "Rural Machinery" on exhibition at the "Crystal Palace," in which the position is set up, that "no other nation has reached anything near our [English] state of advancement" in this department. The writer goes on—"This will be obvious on inspecting the Belgian and French agricultural implements, which consist only of plows and other tools for turning up or pulverising the soil, and are far less effective than ours. And it is even more obvious on looking at the American implements, which, with few exceptions, consist also of tools for performing the first operations of husbandry. Their plows are implements of very little power, and are quite incapable, we apprehend, of turning up a deep furrow. Indeed, the upright stilts, and short beam and mould-board, give the American plows exhibited much the appearance of a horse-hoe, or small potato plow, occasionally used by market gardeners; they afford, more than any other description can do, a conception of the primitive condition of husbandry in the New World."

The above is in several respects unfair. In the first place it takes the very unreasonable ground, that the London Exhibition represents the actual condition of agricultural implements in the different countries. England, of course, makes her utmost display; she has every facility and inducement for doing so; other nations, and especially the United States, have made no attempt at a general competition with her in this department. The great distance and various impediments, have prevented our manufacturers from sending many articles. Thus of plows, there are only specimens from *three* American manufacturers. Many of our best implements are entirely unrepresented. The assertion that our plows "are implements of very little power," is evidently made by a person who knows nothing about it. There is no evidence that he had seen the plows tried, and they had not, in fact, been tested in England when the article was written. Hence any judgment of this kind must be premature.

We have no disposition to claim more for American implements, or concede less for British ones, than positive merit would justify; but the conclusion, drawn from this exhibition, that those of England are far superior to those of any other nation, we believe to be unwarranted. As to plows, we are not altogether strangers to some of the best of English and Scotch manufacture. We are free to admit, that until lately, they have possessed an advantage, in one respect, over our American plows—that is, they have been better adapted to *stiff* soils. In such soils, the former will cut a deeper furrow, in proportion to the width, than most of our own. The fault with the latter is not that they will not turn a *deep* furrow—many of them will go seven or eight inches deep—they cut too wide, and leave the slice too heavy. But there is a great difference in our plows in this respect, and we do not admit that the superiority alluded to is entire and universal. Except in the particular mentioned, we are not aware that the English and Scotch plows can in general claim any advantage over the American.

TOADS IN GARDENS.—Various remedies have been given for the prevention of the ravages of insects in gardens. Worms, or the larvæ of certain moths and beetles, often make great destruction among many kinds of plants. Various kinds of bugs attack melons, cucumbers, squashes, &c., and often destroy the crop soon after it appears above ground. Some kinds of worms seldom or never appear above the surface of the ground—attacking plants at their roots, or at such parts as are covered by earth. Others eat the leaves, and sometimes the stems of young plants. The latter are frequently called "cut worms," from the manner in which they cut off plants at the surface of the earth. In this way they totally destroy some kinds of plants,—as beans, melons, cabbages, &c., which, when once cut off in this manner, can make no further growth. One of the best means of preventing the ravages of these insects, is to hunt them early every morning, while they are near the plants they have eaten the previous night, and destroy them. Young chickens and ducks are sometimes kept in gardens, that they may devour the insects. This is but a partial remedy. Chickens will only eat a few species of insects—some of the most destructive they leave unnoticed—and they will always do more or less injury by eating various plants, and by scratching. Ducks feed more indiscriminately on insects, and do less damage to the plants. But *toads* will do much more good in proportion to the number, (if well grown,) than either chickens or ducks. They do no injury whatever; they feed altogether on insects, and devour almost every species that infests the garden. They have another advantage over chickens or ducks; they seek their food at times when insects are most abroad,—at dusk of evening, when fowls are at rest. Excepting the black "pumpkin-bug," toads will fill their stomachs with any bug, worm, or fly that belongs to the catalogue of enemies to the farmer or gardener.

☞ At the sale of the live-stock of WM. S. KING, Esq., near Providence, R. I., on the 7th of May last, the following prices were obtained for cows: *Brindle*, sold to M. P. Wilder of Massachusetts, $100; *Pink*, sold to John Lane, $105; *Jessica*, sold to S. J. Capen, of Massachusetts, $170, and several others $50 to $70 each. They were mostly of mixed blood—Short-horn, Devon, and Holstein, with the common stock.

BUCKWHEAT.—This crop is one of considerable importance in many parts of New-York. It is usually sown in July—sometimes as late as August. A bushel of seed to the acre is the usual quantity. Sometimes it is sown on land from which a crop of hay has been taken the same season, and on a clover ley, if the soil is loamy and friable, it will frequently do well. This grain is also sometimes sown in connection with winter wheat, as a protection to the latter for winter. From personal experience, we cannot speak of it for this purpose. The consumption of buckwheat flour in our cities, during during the winter months, is very great, and it commands a price but little inferior to that from wheat. The coarse parts of the grain, after the flour has been separated, make good food for swine, milch cows, or other stock; and as a good yield—twenty-five to thirty bushels per acre—can frequently be obtained on land where wheat cannot usually be cultivated to profit, the crop has many advantages.

MANUFACTURE OF MUSTARD.—We have made some inquiries of Messrs. E. MURDOCK & SON, of this city, in regard to the manufacture of mustard. We have been not a little surprised at the extent to which this business is carried on by them, and by information they have given us in regard to the manufacture of the article in the country. Messrs. M. work up from 1,000 to 1,500 lbs. of mustard seed per week, equal at least to 30 tons a year, and they think the quantity manufactured in the state is at least 100 tons a year. They state that but a small portion of this seed—not more than a hundreth part, is raised in this country. The larger portion, and that of the best quality, is imported from Sicily and France. It is worth on the average seven cents per pound, or $3,50 per bushel. Messrs M. state that most of the American seed which they purchase, is as good as the best imported. They inform us, also, that the principal objection to the quality of the seed raised a few years since in Ohio, was that the crop was frequently cut when much of the seed was in an immature state, which occasioned much of it to shrink and sometimes to become mouldy. It should be cut at different times—the lower branches first, and other portions as they ripen. Messrs. M. are now getting some good seed from Illinois and Wisconsin. It averages in yield about fourteen bushels per acre, and gives a satisfactory return to those who pay proper attention to the cultivation and curing. Messrs. M. recommend the adoption of the Sicilian seed for sowing in this country, as being more productive and uniform in quality.

EMIGRATION TO THE UNITED STATES.—The *North British Agriculturist*, in reviewing Professor JOHNSTON'S "Notes on North America," says—"The extent to which emigration is now going on from Great Britain is, indeed, such as ought to excite serious alarm. In the year 1849, the numbers in the parliamentary returns were close upon 400,000. We have not seen the returns for 1850; but we believe that the increase during that year was at least 12 per cent., and this year it will be still more. We are quite prepared to hear that dur-

ing the present year, 500,000 individuals will have left the British islands, which is equal to about two years increase of the population; so that, at this rate, every four years the population will have diminished by nearly one million. The Irish newspapers are already teeming with apprehensions as to the consequences of this whole-sale system of expatriation." The writer concludes that Great Britain suffers greatly, not only from the loss of hands necessary for agricultural labor, but also from loss of capital—the latter being computed at £10,000,000 a year, taken out of the country by emigrants.

Number of Seeds in Given Weights—Mr. Melvin stated in a late discussion at an English Farmers' Club, that after several trials he had found that—

1 lb. of red clover of good quality gives, per acre, to each superficial foot,..... 6¼ seeds.
1 lb. yellow clover, (*Medicago lupulina*,).. 6 "
1 lb. white clover, ... 16 "
1 lb. rye grass, ... 5 "

But as a large number of the seeds sown do not vegetate, and many of the plants which come up die, it is necessary to sow much larger quantities than are specified; and Mr. M. recommends for an acre, 8 lbs. red clover, 2 lbs. white do., 2 lbs. yellow do., with one bushel of rye grass, which by his computation affords 100 seeds rye grass, 50 red clover, 32 white, and 12 yellow clover, per superficial foot. In this country, a good substitute for the rye grass would be the same quantity of red-top per acre.

Imported Horse Trustee.—We saw this fine horse a few weeks since, at Morrisania, Westchester county, where he is kept the present season, in charge of Mr. Henry Booth, one of his owners. Though upwards of twenty years of age, he was in excellent condition, and as sprightly as a colt. He is a horse of fine symmetry, and excellent temper, and has been the sire of much good stock.

Morgan Horses.—We are pleased to learn that much attention is paid to this stock of horses in Brattleboro', Vermont. Great care is taken in selecting and preserving the best blood; judicious crosses are also made with the finest and most approved English blood, having proper regard to speed, graceful action, and endurance—preserving the distinctive qualities and characteristics of the noble "Morgans."

Shanghae Fowls.—We have received from Dr. E. Wight, of Boston, a pair of these fowls, bred from stock imported by him from Shanghae. They are entirely white, and of good size. Dr. W. informs us that though they are not quite a year old, the cock weighed, a few weeks since, nine pounds.

Fleece of a "French Merino" Ram.—We have received from Messrs. J. C. & J. R. Morris, of Morris, Otsego county, a sample of wool from a Merino ram, imported by F. M. Rotch, and now owned by Messrs. M., the fleece of which, they inform us, weighed "twenty-one and a half pounds, unwashed and of one year's growth." The animal was two years old last spring. The wool is of fair quality.

New-York State Agricultural Society.

A meeting of the Executive Board was held at Rochester on the 5th of June. We are gratified to learn that all the necessary arrangements for the Fair, which is to take place at Rochester on the 16th, 17th, 18th and 19th of September, are in a state of commendable forwardness, and that everything connected with that display is highly favorable and encouraging.

It appears that the steam-boats on Lake Ontario, and the railroads, generally, in the state, have agreed to carry articles and stock for the Fair *free*, and passengers for *half price*, as has heretofore been customary. It is probable other railroads and boats will come into the same arrangement. The President has received instructions from the Government, whereby all animals and articles intended for the exhibition at the Fair, are to be admitted from foreign places free from duty, to be entered according to the provisions of the Warehouse act; and the Fair Grounds at Rochester are to be deemed constructive warehouses, where all animals and articles from abroad, duly entered, shall be under the supervision and custody of the officers of the Customs.

The following superintendents of the different departments of the Fair grounds were appointed:

Cattle—Wm. H. Sotham, Black Rock.
Horses—J. B. Burnett, Syracuse.
Sheep—Lyman Sherwood, Auburn.
Swine—R. Harmon, Wheatland.
Poultry—L. H. Haddock, Buffalo.
Floral Hall—L. A. Ward, Rochester.
Dairy Hall—Israel Denio, Rome.
Manufacturers Hall and Machinery—L. B. Langworthy, Rochester.
General Superintendent of the Grounds and Charge of the Entrances—Henry Wager, Utica.
Mechanical Motive Power for Moving Machinery—Wm. Kidd, Rochester.

The monthly meeting of the Board for August, will be held at Rochester on the 7th of the month.

Albany Prices Current.

Albany, June 14, 1851.

The receipts of produce of all descriptions during the past month have been very large—far in excess of the receipts by Canal to the corresponding period last year. The result is, in absence of any large demand from abroad, accumulating stocks and gradually declining prices. The English markets for Breadstuffs and Provisions, hold out little encouragement to shippers, and quotations of the former especially under the influence of promising crops, in Ireland especially, and large receipts from the Continent rule very low. The imports from France alone in 1850, were last year over 4,000,000 bushels of wheat, and 1,000,000 bls. of flour; the receipts this year from the same source are represented to be largely in advance of those to the corresponding last year.

Flour.—Our market for flour has been confined to sales on Eastern and River account and a moderate trade demand. The sales have been about 36,000 bls. at quotations. Wheat shows a further decline, and the market still exhibits a downward tendency. We quote common State and mixed brands of Western $3.87a$4, good State and Western, $4a$4.12½; round hooped Ohio and favorite State and Western $4.06a$4.18¾, and Genesee $4.31a$4.44, fancy Genesee and extra Ohio $4.50a$4.75 and extra Genesee $5a$6. The latest quotations from Europe are of 30th May. Western Canal flour 16s 19s. Philadelphia and Baltimore 20a20s. 6d. St. Louis Canadian and Ohio 19a20s. Sour and heated 16a18s. A sale of 500 bags Corn meal was made at $1.18¾ per cwt.

Grain.—There has been a limited business done in wheat; prime

samples of Genesee are scarce and wanted; uniform parcels of State or Western are unsaleable here; the transactions are 28,000 bushels at 112½a115 for Genesee, closing at the inside figure, 97a99c. for White Michigan, 87½a90c. for Mediterranean, 91c. for Ohio and 65½c. for Chicago. Rye has been in moderate supply; the only sales have been 2600 bushels in two lots, at 72½c. and 400 do. at 76c.; a lot 21,000 bushels in store at Oswego, was offered here on Thursday last to be delivered at 78c. There has been a fair business done in Oats; the sales are 166,000 bushels at prices ranging from 48 to 43a44c., closing at the lower figures for good samples States and Western. The sales of Barley have been limited and reach 12,000 to 14,000 bushels at 110a95c. as the range, closing at the lower figure with a declining market; included in the sales were 3,000 bushels Scotch Barley at 100c. The supply of Corn during the month has been very large and quotations under the influence of the receipts here and in prospect have further declined. We quote Yellow mixed 56½, and Western mixed 54½c. at which the market has ruled steady for some days; round White for the moment is higher and may be quoted 62a66c.; the sales during the month here and to arrive aggregate 400,000 bushels. Malt retails at $1.25a$1.31½. The quotations in Liverpool on 30th May, were Wheat, red, 5s. 3d.a5s. 6d. per 70 lbs., do. White 5s. 10d. a6s., do. mixed 5s. 7d.a5s. 9d. Indian Corn, white, 31s. 6d.a32s. per 480 lbs., do. mixed 29s. 6d.a30s. and do. Yellow 30s.a30s. 6d. Yellow meal 14s.a14s. 6d. per brl.

FEED.—The sales which reach 60,000 to 70,000 bushels, show no material change on rates; shorts 13a14c., second quality 18½a23c., and fine feed 100a106c.

HOPS in limited supply; sales crop of 1850 at 40c.

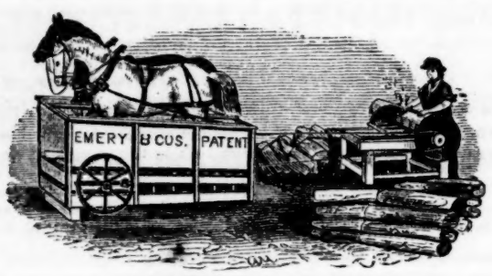
WOOL.—We have no sales to note. The new clip is arriving at the Western markets sparingly, and not enough to make a market.

WHISKEY has followed the decline in coarse grains and can be quoted at 22 for Ohio and State brls. and 22½ for S. P., with sales 700 to 800 bls.

PROVISIONS.—The sales include 500 bls. Pork at $15a$16 for mess and $13.25 for prime. In Beef a sale of 64 bls. extra city mess was made at $11. In Cut Meats there has been a fair business done with sales 400 bls. at 8c. for pickled Hams, 6¼a6¾c. for do. Shoulders, and 7c. for canvassed Hams. A sale of 150 bls. Lard was made at 9c. The retail demand has been supplied at $15a15.50 for mess pork, and $13 for prime. Beef $10a10.50 for mess and $6a6.50 for prime. Cut meats 9a10c. for smoked hams, at 7a7½c. for do. shoulders; in pickle 7½a8c. for hams and 6a6½c. for shoulders. Lard 9a10c. Butter 12a14c. for new State. Cheese 5a7c.

SALT is 106¼a112½ per brl. and 9½a10c. per bag.

PLASTER.—Nova Scotia sells as it arrives at $2.87½a3.12½.



EMERY & CO.'S
New-York State Society's First Premium
RAILROAD HORSE-POWERS.

THE above justly celebrated Powers as now made and sold by the subscribers, are offered the public with the assurance that they are all they are represented—they having been very extensively and thoroughly introduced and tested, side by side, with all the tread powers known, of any note in the country, and been preferred.

The Chairman of the Agricultural Society's Committee on Horse-Powers, in a communication written several months after the awarding of premium to the above Horse-Power, says: "I spent much time at the late State Fair, (Sept. 1850,) at Albany, in examining the various Horse-Powers, viz. Wheeler's, Allen's, Ham's, and Emery & Co.'s, first with the owners and makers, and heard all they could say, and again in their absence—and the result most fully convinced me that yours was the best, and if I wanted one, I would give TWENTY DOLLARS more for yours than any others on the grounds; and as you have won the laurels fairly, it is just that you should recieve a full reward."

He further says—"You know from experience that I have no sort of partiality for your establishment, and as a committee-man of said Society for years, I have decided against you oftener than for you; and if others have a better article than you, I would decide in their favor, if the decision ruined your establishment, and vice versa, hurt who it may.

With the testimony of such men as the author of the foregoing, which, together with the changeable gearing, and other important improvements adopted since last season, make it the most Convenient, Durable, Efficient, and Economical Horse-Power now made; and the public may rest assured of being furnished by us with a superior machine.

For further particulars, prices, &c., see Catalogue of Albany Agricultural Warehouse. EMERY & CO.

LANDS ON LONG ISLAND,

ADJOINGING the Villages of Lakeland and Hermanville, about 45 miles from the cities of New-York and Brooklyn, by the Long Island Railroad. The opportunity is now offered to all those who ever wish to obtain land on Long Island, the ancient "Garden of America," that will probably never occur again, for these lands are the only remaining new lands on the Island, and are equal in quality, when cultivated, to any other land.

The results of cultivation on these Island lands have been so great, so much beyond the expectations of any one, that they are now considered of great value for farms and gardens, and will, in all probability, be all taken up for settlement and occupation, or be held at more than five times their present price. All kinds of produce may now be seen growing there, such as wheat, rye, corn, potatoes, and garden vegetables, with fruits and flowers, in the most luxuriant growth, where but a short time since, the land was covered with trees and bushes.

The surface of the ground is perfectly beautiful, free from stone, bogs or marshes, and the climate as healthy as can be found in this latitude. The soil is a fine loam, admirably adapted to high cultivation and great crops, and of easy tillage.

Indeed no New-England or Northern New-York man can form any adequate idea of the difference in the labor and strength requisite to cultivate these Island lands, and that required to subdue their own rugged lands, until he has seen or made the trial; and I now offer for sale as handsome land, and intrinsically as valuable, as can be found within fifty miles of the city of New-York, in any direction, in lots of five acres or more, for the sum of $25 per acre.

Any person wishing to purchase a five acre lot of good and handsome land, without one foot of water or useless ground on it, can do so by sending $10 as a first payment, and the further sum of $10 a month until half is paid, when warrantee deed and good title will be given, and the remainder part of the purchase money may be paid or secured on the land, to be paid within three or five years with 6 per cent yearly interest. Larger lots will be sold on the same terms.

The title is perfectly good—I have a history or deduction of the title complete—certified to by legal men of the highest character, I will send by mail, with maps, pamphlets, and all information, to all purchasers, or those who wish to be informed of these Island lands, by applying to CHARLES WOOD, Stationer, 117 John street, New-York. July 1—2t.

Farm in the Genesee Valley for Sale.

THE subscriber offers for sale his Farm of 212¼ acres, situated in the town of Avon, Livingston county, N. Y., and formerly known as the Tompkins farm.

On the premises there is a new dwelling house, in the Ornamental English Cottage style. The grounds are tastefully laid out with gravel walks and planted with shrubbery. The gardens contain choice varieties of peaches, grapes, &c., and the orchards the best grafted fruit. Attached are a carriage and ice house, barns and tenants houses. The farm is acknowledged to be one of the finest wheat farms in Western New-York.

It has been for years under the most careful and judicious cultivation—is highly improved and in a perfect state of repair. There are about 40 acres of woodland with superior timber.

The Buffalo and Conhocton Railroad now in progress passes thro' the town. The Genesee Telegraph line has an office in the place. The farm is distant about 3 miles from the Avon Sulphur Springs. This place offers inducements to purchasers. For further particulars apply to HENRY L. YOUNG, Avon, N. Y.
July 1—tf.

IRON RAILINGS.

THE subscriber is agent for one of the most extensive Iron Railing establishments in the country, is prepared to fill orders at short notice for every discription of Wrought Iron Railings, and also patent Wire Railing. These Railings are well adapted for enclosures of all descriptions, particularly Cemeteries, Public Grounds, Door Yards, Gardens, Balconies, &c., it is also used for covering for Windows of Stores, &c.

Have also for sale, the English Hurdle fence at a low price. For further particulars respecting prices, and for drawings of Railings, please address by letter or otherwise,

A. LONGETT, Commission Merchant,
Office at the State Agricultural Warehouse.
July 1—1t. No. 25 Cliff street, New-York.

THE WORKING FARMER.

A MONTHLY publication devoted to Agriculture, Horticulture, &c. Edited by Prof. J. J. MAPES, published by A. LONGETT, No. 25 Cliff street, New-York, at $1 per year.
July 1—1t.

Agricultural Books

OF all kinds, for sale at the Cultivator Office, 407 Broadway, Albany.

McCormick's Patent Virginia Reaper.

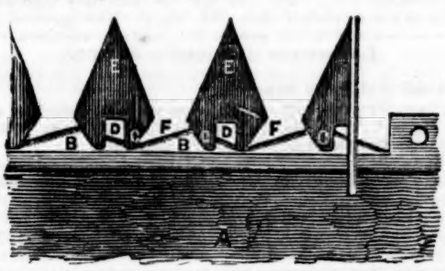
Rochester, May 12, 1851.

THE undersigned, in again offering his Reaper to the Farmers of New-York for the ensuing harvest, deems it unnecessary to say much in the way of an advertisement, having provided for bringing the subject directly to the attention of those interested, by means of traveling and local agents, who are provided with handbills for distribution in the different wheat growing portions of the state, which furnish a fuller account of the Reaper, with the recent improvements made on it, than could be generally given through the newspapers of the country. It is deemed sufficient to say here, that the undersigned has made ample arrangements for the supply of whatever demand shall be found in New-York for his Improved Reaper, (having improved it more or less every successive year since its first introduction,) provided that application for the same shall be made in due time; and that Hon. Thos. J. Patterson of this city will act as his principal traveling agent, and will supply local agents for counties or small districts, with hand bills and all needful information in relation to the Reapers, which will be kept on deposit at Buffalo and Rochester,—and it is also intended to have one at Brockport, and some suitable place in each district, that can be seen, where persons desirous of purchasing would do well to call and examine them. They are referred for them to Holt, Palmer & Co., of Buffalo, and to Mr. Patterson, Joseph Hall, or David R. Barton, Esq., of Rochester. Mr. Hall, well known throughout this state for the last ten or fifteen years, as the most extensive and successful manufacturer of threshing machines in the state, and Mr. Barton, equally well known as the most extensive general "tool manufacturer" in the state, have, (as will be further seen from their advertisements,) taken agencies for the sale of the Reaper,—the former for the counties of Monroe, Ontario and Wayne, and the latter in those of Livingston, Genesee and Wyoming. Mr. Hall will be supplied with patterns, and can from time to time furnish any parts of the Reapers to purchasers; and Mr. Barton will be supplied with sickles for both new and old machines.

The price of the Reaper will be the same as hitherto, and it will, in every respect, be warranted as heretofore, as will be found in the printed form of an order for one, the undersigned being still determined, (as heretofore,) to introduce it upon its merits, and to the satisfaction of the farming community—who should look well to the *form* of the *guaranty* offered by others.

Local agents are requested to keep up a regular correspondence with the undersigned, at Chicago, Ill., who will be pleased at all times to be inquired of through the mail, by any one in relation to the Reaper. Mr. Patterson may and should also be written to, but he will be necessarily much from home, and all delay should be avoided that can be.

The undersigned, not having for some time felt it necessary to publish *certificates* of his Reaper, would respectfully refer those feeling any interest in it, for information, to the following persons, viz: Daniel Collins, Esq., Fayette, Onondaga county; A. Bothwell, Genoa, Cayuga county; David Oliver, Aurelius, Cayuga county; H. Osgood, Ovid, Seneca county; Abram Bloomer, Romulus, Seneca county; E. P. Spencer, Penn Yan, Yates county; Cyrus Gult, Hopewell, Ontario county; William Woolston and J. P. Vanness, Victoria, Ontario county; Hon. Charles Carroll, Groveland, Livingston county; W. F. and N. Crappell, Avon, Livingston county; Dr. C. McKinzie, York, Livingston county; Anson Zorpy, Elba, Genesee county; W. P. Slocum, Cambria, Niagara county; Ethan Pettit, Wilson, Niagara county; Dr. J. Grever, Lockport, Niagara county; Simeon Wilson, Lockport, Niagara county.



The improvement made on the Reaper since the last harvest, which is in the Cutting Apparatus, as shown in Figure 2, consists of a combination of the Shoulder or back angle of the Finger, (as patented and used in my Machine,) with a slightly indented or zigzag edged Sickle, by which arrangement, as seen from the cut, the angle in the Sickle edge is made so obtuse, as, together with the angle of the Finger for *holding the grain to the Sickle*, to effect the most perfect philosophical principle of cutting, by using just the right slope for cutting with the *least resistance*, and in the most perfect manner. The objections to the zigzag edge, as used by Hussey and others, are in this entirely obviated, while all the benefits derived from the use of my Finger are still secured. Without the angle in the Finger for holding the grain to the Sickle, it has been necessary to use so acute and abrupt an angle in the blade to effect the cutting, as to require a very high motion to the blade, and that, with so much friction and resistance as to make the Machine very liable to get out of order—the cutting being done more by means of the *abrupt stroke* against the grain, than by the edge of the instrument. This is understood by every boy who knows how to draw a knife in cutting a stick, and needs only to be stated to be understood by all. C. H. McCORMICK.

Chicago, May 20, 1851.

EDS. ALBANY CULTIVATON.—Please insert the foregoing advertisement in your valuable Journal—and permit me again to refer your readers to the 186th page of the May No. of the "Cultivator," for Mr. *Husseys's* own repudiation of *his* Machines, as heretofore manufactured by his brother at Auburn, N. Y., and elsewhere, which have been the only machines of his sold or offered in the State of New-York. As to his real Simon pure "*Balt. Machine*" which *he now claims* "has driven from the field East of the Alleghany Mountains, every other Reaper," [April No. Cult. p. 149,] I need only say that I sold East of said mountains, *from Chicago*, for the *last harvest*, near 100 Reapers—being a *larger number than Mr. Hussey sold from his Baltimore manufactory altogether*—and calculate to sell *there* for the ensuing harvest at least double this number, 150 having already been shipped; and further to *explain*, that for a few years past, while I have been engaged in the manufacture and sale of my Reapers in the *Prairie country* of the North-west, by thousands, and so extensive as nearly to require my whole attention, Mr. Hussey has been able to sell but *very few there*—whether of Baltimore or other manufacture, and with all the effort he has been able to make *personally*, as well as with all the *agencies* he could procure—and indeed, as I am informed, has not sold from his Baltimore manufactory altogether, "East of the Alleghany Mountains," some 50 Machines a year—while I was able to give but little attention to the supply of that section of the country. And I will only add that, being now prepared to supply the demand for Reapers throughout the whole of this country—Texas, California and Oregon not excepted, and where they are about being introduced—I shall be disposed in future, as "heretofore," to compromise with Mr. Hussey by continuing to supply the *demand of the country* with Reapers, while he may continue to "lay the flattering unction to *his* soul" that his "*Baltimore* Machine" is the "only genuine article,"—and not being ambitious "of making a very large number of Machines, the extent of my (his) business, has heretofore been to fill (a few) orders."

I may say that while Mr. Hussey has *advertised* his Machine for *mowing*, since its first introduction, without success, I *sold* a good number of Machines last year, adapted to mowing as well as reaping, which gave satisfaction, and are believed to be superior to any others yet used; and that they will be so *introduced and further tested* the present season in the different sections of the country—and that the mowing attachment can at any time *hereafter* be applied to the Reapers of this year if wanted.

I shall conclude by referring to a single (subjoined) letter from Maryland, and to the following authorised agents for the sale of "McCormick's Patent Virginia Reaper," viz: H. N. Willetts, Middletown, Del.; L. H. Dowdney, Greenwich, N. Jersey; E. Whitman jr. & Co., Baltimore, Md.; C. Page, Fredericktown, Md.; H. M. Smith, Richmond, Va.; Abner Thompson, Reedsville, Mifflin county, Pa.; Lee Pierce and Lee, Ercildown, Chester county, Pa.; Lewis Moore, Bart township, Pa., and Saml. Whirry, Chambersburg, Cumberland co., P.; T. R. Ebhinton, 53 South Wharves, Phil., principal depot for Reapers East of the mountains. Very respectfully yours. C. H. McCORMICK.

Waterloo, St. Mary's Co., Md., Nov. 12, 1850.

Mr. C. H. McCormick, of Chicago, Illi.: I have been intending to write you ever since harvest, concerning a Reaper my brother and I ordered of you, but have deferred til I am almost ashamed to write, though I think I ought to write. When a man invents any machine which is of essential service to his fellow man, his reward consists not alone in the dollars and dimes which it brings into his pocket, but also in the good report of the progeny of his genius.

My brother and I having rather heavy harvests for our forces, determined to buy a Reaper in partnership. When he was about to start for Baltimore to procure one, I cautioned him particularly "not to get McCormick's," having seen an article in the American Farmer by Dr. M——, of the Eastern Shore of Maryland, in which Hussey's and McC.'s Reapers were compared, as I thought much to the prejudice of McC.'s; but my brother, contrary to instructions, meeting with Mr. Whitman of Baltimore, was induced to purchase one of the forbidden McC.'s Reapers. I commenced in my own crop, in a lot of wheat, some of which was 6 feet 4 inches high, and some not over 3 feet, and it would have done you good to see how she laid it down, with a *green* raker and driver. With this same raker I cut my field of about 70 acres, and my brothers of about 60 acres, and all without worsting the horses one pound in flesh, to all appearances. Mr. Plowdon, who is a large wheat grower, has had one of Hussey's Reapers at work for three or four years, and one might suppose that the appearance of a Reaper would be nothing to attract attention; but it was otherwise. My field was thronged with visitors all the time, both ladies and gentlemen, and all pronounced her work admirable and perfect. So well pleased with it were those farmers who saw it work, that I think I could ensure the sale of at least six in this immediate district, at a small premium. One gentleman, who is a man of few words, after following the Machine about a hundred yards, and eyeing every *rake* and *turn* of the reel, without a word, first made use of this language: "I am done with cradles." Another said—"If I can raise forty dollars I'll have one." I only write these to show, (they are few of the many commendations,) how your Reaper *took* in this neighborhood. I consider it scarcely susceptible of improvement. She has been well tried I assure you; and If I were asked what I consider the advantages of having McCormick's Reaper, I should say candidly, I think the Reaper worth at least $15 per day, besides the saving of enough wheat over and above what the best cradles save, to pay for herself in reaping a field of 50 acres of good wheat. In fine sir, if there could be no more Reapers made, but the privilege of keeping this up by repairs, reserved, I would not take $1,000 for it, and I have heard my brother say the same. Repectfully. July 1—1t. Z. D. BLAKISTONE.

PARKER & WHITE,

MANUFACTURERS of *Garden Implements and Farm Machines*, and growers and Importers of SEEDS and TREES, 8 and 10 Gerrish Block, Blackstone-st., Boston. April 1—tf.

Transactions N. Y. S. Ag. Society.

THE Transactions of the New-York State Agricultural Society vols. 1 to 9, for sale at the Office of "THE CULTIVATOR"—price $1 per vol.

ANALYTICAL LABORATORY,

Yale College, New-Haven, Connecticut.

JOHN P. NORTON, PROFESSOR OF SCIENTIFIC AGRICULTURE.

THIS Laboratory is now fully organised for instruction in all branches of analyses connected with the examination of soils, manures, minerals, ashes, animal and vegetable substances, &c. Full courses are given in each of these departments, and also in general Chemistry, both organic and inorganic.

Students can thus fit themselves to become instructors in the various branches of Chemistry, or to apply so much of that and kindred sciences as may be necessary to the practical pursuit of agriculture or manufacturing. The demand for teachers and Professors in the various branches of chemistry, especially Agricultural, is now great and increasing, so that this is now a fair field for those who have a taste for such pursuits.

A course of Lectures on Scientific Agriculture, by Professor Norton, commences in January of each year, and continues for two and a half months. This course is designed especially for the practical farmer, and has given great satisfaction to those who have attended it in previous years. It embraces a plain connected outline of the leading points in improved agriculture, treating in succession of the composition of the soil, the plant and the animal; of their connections with each other, and of all the improvements in cultivation, manuring, feeding and fattening, which have been adopted in the best agricultural regions. This course is made so plain and practical, that the farmer who attends it can understand the whole, and apply it in his own experience.

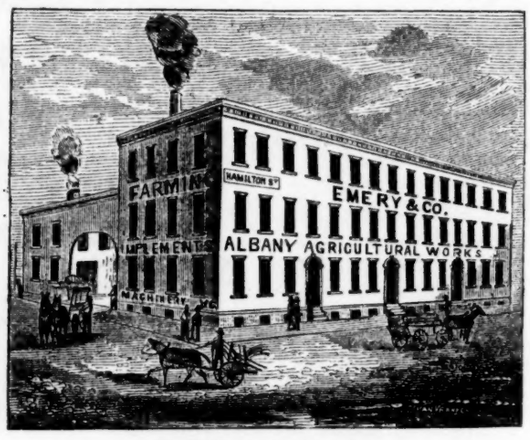
More can be learned by attendance upon such lectures, by reading in connection with them, and by associating with others who are also desirous of obtaining a better knowledge of their profession than in years away from such advantages. The young farmer learns to think for himself, to see that a practice is not necessarily right because it is old, to understand the reasons for all that he does, and with this increase of knowledge is better able to make farming profitable as well as interesting.

Board and lodging may be procured at from $2 to $3 per week, and the Ticket for the Lecture is $10.

In connection with the Lecture is a short Laboratory course, by means of which those who desire it, are taught to test soils, manures, marls, &c., in a simple way, and to make many elementary examinations of a highly useful character. The charge for this course is $25.

To those students who go through the full Laboratory course, the charge is about $200 per annum, and they can be admitted at any period of the year at a proportional charge.

For further information apply to Prof. JOHN P. NORTON, New-Haven, Conn. June 1, 1851—8t.



EMERY & CO.'S
New-York State Agricultural Society's
FIRST PREMIUM
RAILROAD HORSE POWER,
AND
OVERSHOT THRESHER AND SEPARATOR.

THE attention of the farming public is solicited to the newly improved Railroad Horse Power, as now made by the subscribers. Also to their Over-Shot Spike Cylinder Threshers, with Vibrating and Revolving Separators.

Having had much experience in the sale and manufacture of Horse Powers and other Agricultural Implements; and being acquainted very extensively with the wants of the farmers of this country, as well as the character of most of the implements and machines now in use, we think we hazard nothing in pronouncing our latest improved Power far superior to any before made or sold by us, or with which we are acquainted.

At the late Fair of the New-York State Agricultural Society, held at Albany, their committee on Horse Powers unanimously awarded us the highest premium for the best Railroad Horse Power, among the large number of the most popular and approved kinds of the day, which were on exhibition and competition,—it being considered the most efficient and durable on the ground.

As the principal mechanical parts of its construction differ so materially from those mostly sold by us previously to the past season, as well as from all others now in use, we have thought it an object to the farmers, as well as for our own interest, to illustrate them by cuts and descriptions, as shown in Cultivator for last month, [April.] The advantages of the recently adopted improvement are numerous and plainly seen, one of which is removing all the gearing and wearing parts to the outside of the power, where it is free from dust and dirt, &c., and where it may be boxed up, requiring little time or oil to keep them in the best possible running order.

The liability of breakage and wear, and slipping of links and pinions, as in the rack and pinion powers, (and most others) is wholly removed. In shipping them, the gears are taken off and packed in a box with other things.

Having sold a large number of the IMPROVED Machines the past harvest, all of which, having given entire satisfaction, and when used side by side with the most approved of other kinds, having been preferred, we do not hesitate to recommend and warrant them equal, if not superior, to any before made or sold by us, or of which we have any knowledge.

Our Thresher consists of a small spiked cylinder, about fifteen inches in diameter, and twenty-six inches long, with a substantial spiked concave above this cylinder, which is adjustable to the work to be done. The feeding table being level, allows the feeder to stand erect, and is little annoyed with dust and dirt—and no possibility of hard substances getting into the Thresher, to its injury.

We attach a vibrating or revolving separator to them, which serves to separate all the grain from the straw, and leave it with the fine chaff for fanning mill, while the straw is carried off for stacking.

Having heretofore been obliged to have a large portion of some parts of our work done by contract, we have felt the inconvenience and want of dependance to be placed upon the quality of materials and workmanship; we have now so extended our facilities, as to enable us to make all parts of all our own machines, and can now assure the public that none but the best work and stock will be offered by us.

The Two Horse Power Thresher and Separator is capable, with three or four men, of threshing from 150 to 200 bushels of wheat or rye, and the single one from 60 to 100 bushels, or double that quantity of oats per day.

The price for Emery & Co.'s one Horse Power,..		$35 00	
do	do Thresher and Separator,.	35 00	
do	Bands, wrench, oiler and extra pieces,.	5 00	—$125 00
do	Two Horse Power,.....	110 00	
do	do Thresher and Separator,..	35 00	
do	Bands, oiler, wrench, &c.,.....	5 00	—$150 00
Price of Emery's Thresher and Cleaner, with bands, wrenches, &c.,.....		$75 00	
do	Saw Mill, complete for use,.....	$35 00	
Price of Grant's Fan Mills, adapted for hand or Power, from		$22 to $28 00	

Also Wheeler's Rack and Pinion Power, manufactured by ourselves, and warranted equal to any of the kind in use, [or made and sold by any other manufacturer,] which we sell with a full guarantee of the right of using same, in any territory of the United States, for the following prices,

One Horse Power,.....	$75
Two Horse Power,.....	100

The Threshers not being patented are same as above quoted.

All the above are subject to the warranty of three months use and trial and if not satisfactory may be returned and full purchase money refunded.

For further particulars see Illustrated Catalogue, furnished gratis on application to EMERY & CO.

Original and sole Proprietors of the Albany Agricultural Works, Warehouse and Seed Store, No. 369, 371, Broadway, Albany, N. Y.

Lawrence Scientific School,

Harvard University, Cambridge, Massachusetts.

SPECIAL STUDENTS attend daily, from 9 o'clock, A. M., till 5 o'clock, P. M., in the Laboratories, and under the direction of the following Professors:

LOUIS AGASSIZ, LL.D., Professor of Geology and Zoology.

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EBEN NORTON HORSFORD, A. M., Professor of Chemistry.

Instruction is also given by Professor PIERCE in Mathematics, Prof. LOVERING in Physics, and the Messrs. BOND at the Astronomical Observatory.

All lectures delivered to the undergraduates of the College, are free to members of the Scientific School. For further information apply to E. N. HORSFORD, Dean of the Faculty.

May 1, 1851—3t.

Kinderhook Wool Depot.

THE subscribers will continue to receive and seel WOOL on Commission. From long experience, an extensive acquaintance with manufacturers, close application, and increased facilities for transacting business, they hope to give satisfaction to those who may favor them with consignments.

All who desire it can have their clips kept separate.

Sales will be made invariably for CASH.

The charges for receiving, sorting and selling will be ONE AND A HALF CENTS PER POUND, and insurance, which will be at the rate of 25 cents on $100 worth of Wool for each term of three months or under.

It will be observed by our terms for selling, &c., that we we have returned to the price charged the first year this enterprize was established. The experience of the past two years has fully proved that the proprietors cannot be adequately compensated for their labor and expenses, at the rate recently charged; consequently they have advanced the commission for selling to the price above mentioned.

Kinderhook, April 1, 1851. H. BLANCHARD & CO.

New York Agricultural Warehouse and Seed Store.

A. B. ALLEN & CO., 189 and 191 Water street, N. Y., offer for sale the largest and most complete assortment of the latest and best improved Agricultural and Horticultural Implements, and Field and Garden Seeds in the United States, embracing every Implement, Machine or Seed desirable for the Farmer, Planter or Gardener. We would call particular attention to our large variety of most approved and very superior Plows, Harrows, Seed Sowers, Grain Drills, Corn Planters, Cultivators, Corn Shellers, Straw Cutters, Hay and Cotton Presses, Grain Mills, Garden and Fire Engines, Water Rams, Endless Chain Suction and Force Pumps, Horse Powers, Threshers, Saw Machines, Garden and Field Rollers, Sausage Cutters and Stuffers, Garden Shears, Knives, Saws, &c., Grain Cradles, Scythes, Snaths, Fan Mills, Forks, &c. &c. Wagons, Carts, Mills and Machinery of all kinds, either on hand or furnished at shortest notice. Our extensive manufactory gives us every advantage for making all articles to order and in the best manner possible.

GUANO, Poudrette, Plaster, Bone Dust, &c.

SEEDS.—Fresh Garden and Field Seeds, raised expressly for us. We shall recommend only Implements, Seeds and Manures of known utility and genuineness, and shall endeavor by the lowness of our prices, and attention to the wants of our customers, to meet all the just wants of the public.

Editors of the American Agriculturist, published monthly at $1 a yaar. A. B. ALLEN & CO.,

Merch 1—tf. 189 and 191 Water street, New York.

I. T. GRANT & CO'S

Patent Fan Mills and Grain Cradles.

WE continue to manufacture these Celebrated Mills and Cradles. Our Mills have been awarded seven First Premiums at the New-York State Fairs—three Silver Medals at the great American Institute in New-York—also at the State Fairs of Pennsylvania, Maryland, Michigan and Ohio, and at a large number of County Fairs. They have never been awarded the second premium—always the first, and they stand without a rival. We feel confident in recommending them as the best in market.

Our CRADLES have taken the First Premiums at two New-York State Fairs. We have made valuable improvements on them the last year, for which we have letters patent. They can be taken apart and packed in boxes, and put together again, with very little trouble, by almost any one.

Orders solicited from, and work sent to any part of the United States. I. T. GRANT & CO.

May 1—e.o.m.—6t. Junction P. O., Rens. Co., N. Y.

United States Agricultural Warehouse and Seed Store, No. 197 Water-street, New-York.

JOHN MAYHER & Co.

THE Subscribers, Manufacturers of, and Dealers in, Agricultura Implements, would inform the public that they keep constantly on hand, and offer sale, the largest and most complete assortment of Agricultural and Horticultural Implements, Field and Garden Seeds, in the United States, among which may be found the following:

Plows—Upwards of 150 different patterns and sizes, adapted to all the different kinds of soil and modes of culture, among which may be found the genuine Eagle Improved Plow, which has taken the Premium wherever exhibited or tested.

Harrows—Of all kinds and sizes.

Corn Planters—Different kinds and sizes, to work by man or horse.

Seed Sowers—A great variety, that will plant all kinds of grain and seed at any required distance.

Cultivators—A large and varied assortment.

Water Rams—Self-acting, of various sizes, with all the late improvements.

Chain Pumps—Complete, or in parts, in small or large quantities, to suit purchasers.

Grain Mills—French Burr Stone and Cast Iron, from $5 to $250, for man, horse or steam power.

Corn and Cob Crushers—Of different sizes.

Straw Cutters—Of all the approved patterns and sizes, for hay, straw, corn, and corn stalks.

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Garden and Fire Engine—Of recent invention, and the best article offered to the public.

Carts and Wagons—Of any style and size, furnished at the shortest notice.

Spring Wheat—Black Sea, and all other varieties of the best and most approved kinds Spring Seed Wheat.

Spring Rye and Barley—in any quantity.

Blue Grass Seed—Just received fresh from Kentucky, suitable for Lawns, and early and late pastures.

Clover Seed—White and Red, a superior article.

Timothy Seed—New and perfectly free from foul seed.

Garden Seeds—An extensive stock, selected with the utmost care, expressly for the American market.

Foreign Seeds—Of the best quality, and latest importation.

Grass Seeds—Ray, Lucerne and White Dutch Clover Seed, just imported.

Bird Seeds—Canary, Hemp, Rape and Millett.

Guano—Genuine Peruvian and Patagonian of the best quality.

Bone Dust—A prime article, in barrels or bags.

Plaster—Ground, in barrels.

Poudrette—At the manufacturers' lowest prices.

JOHN MAYHER & Co.

March 1—tf. 197 Water Street, New-York

Emery's Horse-powers and Threshers.

EMERY & CO.'S Premium Railway Horse-powers and Threshers, which were awarded the first Premium at the late State Fair, in competition with many others, for sale at the State Agricultural Warehouse, No. 25 Cliff-street, New-York. G. H. BARR.

June 1—2t.

Prouty & Mears' Celebrated Centre Draught Plows.

A LARGE assortment can be found at the State Agricultural Warehouse, No. 25 Cliff street, New-York.

June 1—4t. G. H. BARR.

MANURES.

PERUVIAN GUANO at 2½ cents per lb.

Bone Dust, Sawings, Shavings, and Crushed, at $2.25 per bbl.

Bone Black, or Burnt Bones, at $3 per hogshead.

Bone Waste, or Bone Manure, at 1½ cents per lb.

Sugar House Scum, or Bullock's Blood, at $2,50 per hogshead.

Sulphate of Soda at 1 cents per lb; packages included at the above prices. For sale at the State Agricultural Warehouse

June 1—4t. G. H. BARR, No. 25 Cliff-street, New-York.

FARM FOR SALE.

THE subscriber offers for sale 350 acres of land, situated four miles north of Chimney Point Steamboat Landing, on the east shore of Lake Champlain, and ten miles from the Vergennes Railroad depot. The farm is well watered, and has a sufficient quantity of Pine timber to keep it in fence for many years, and a surplus of fire wood. The house is comfortable; the barns, six in number, some new and all in good repair. There are two orchards, which produce grafted fruit of the best varieties. The farm will recommend itself to any one who will take the trouble to inspect it. Also, for sale one thousand good Merino sheep. JONAS N. SMITH.

Chimney Point, Vt., June 1, 1851—2t.

The American Live Stock Insurance Company,

At Vincennes, Indiana.

CHARTER unlimited. Granted January 2, 1850. ☞Capital $50,000!☜ For the Insurance of *HORSES, MULES, PRIZE BULLS, SHEEP AND CATTLE*, of every description, against the combined risks of *Fire, Water, Accidents and Disease.*

Losses paid in 30 days after proof of death.

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Aug. 1, 1850—1yr. B. P. JOHNSON, Agent, Albany.

Morgan Hunter and Morgan Chief.

MORGAN HUNTER will stand the coming season at the stable of S. A. Gilbert, East Hamilton. Terms, $10.00 to insure. This fine horse is seven years old; was bred in Springfield, Vt.; got by Gifford Morgan; dam by the same horse, thus possessing more of the blood of the Gifford Morgan than any other horse now living. For figure and description, see Cultivator for 1849, p. 216.

MORGAN CHIEF will be four years old on the 18th of June next. He is a superior colt; was got by Gifford Morgan, dam by Green Mountain Morgan. He will stand at the stable of H. R. Ackley. Terms, $10.00 to insure. See Cultivator for 1849, p. 67.

June 1—2t. ACKLEY & GILBERT.

Morgan Horse Young Gifford.

THIS splendid colt will be kept at the stable of the subscriber the coming season, for a few mares only. Young Gifford will be three years old in June next; in color chestnut; was bred in Walpole, N. H., by F. A. Wier; got by Gifford Morgan, dam by Sherman Morgan, thus possessing the blood of the best Morgan Stallions on record. In color, form and action, he closely resembles his illustrious sire. Terms, $10.00 to insure. Good pasturage furnished; accident and escape at the risk of the owner. S. A. GILBERT.

East Hamilton, Madison Co., N. Y., June 1—2t.

Imported Consternation.

THIS Celebrated Thorough-bred Horse, will stand the present season, as heretofore, at the farm of the subscriber, two miles west of Syracuse.

In order that farmers of the most limited means, may be enabled to breed from this valuable Horse, the subscriber has consented to offer his services at the extraordinary low price of $7.00, payable in advance, in all cases—reserving the right to reject mares that are deemed unsuitable.

Mares provided with pasturage—well fenced, and well watered, at 37½ cents per week, but entirely at the risk of the owners.

Syracuse, May 1, 1851—3t. J. B. BURNET.

SIR HENRY ECLIPSE

WILL stand in the city of Albany, at the stable of Wm. W. Woolford, 157 Washington-street, as follows: Five dollars single service, ten dollars the season—insured by agreement. Season to commence the first of May and end the 15th of July. Admirers of good horses are invited to examine for themselves.

PEDIGREE.—His grand sire was the noted horse Sir Henry, imported; his sire the McKinney Henry; his dam from Morgan descent; and in point of beauty and endurance, could not be excelled in the land. Sir Henry stands full seventeen hands, is a dark chestnut, and weighs about 1,400 lbs., and is a perfect model of a horse. He challenges the land for comparison of stock, and is the horse that was awarded the first premium at Buffalo when three years old, and is coming six years old this May. JOHN D. SPINNER.

June 1—2t.

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DRAIN TILES.

THE STATEN ISLAND DRAINAGE TILE COMPANY are nowprepared to supply Agriculturists with the above named tiles of the most approved patterns.

2	inch pipes,	one foot in length,	per thousand,		$9 00
2½	do	do	do	do	10 00
3	do	do	do	do	12 00

And pipes and Horse-shoe Tiles of all sizes, at corresponding prices.

The establishment is at *Latourette's Point, Fresh Kills*, near *Richmond, Staten Island*, and boats drawing four feet water can enter the yard and load at the kilns. Address

H. K. BALL, Stapleton, S. I., or
E. J. DUNNING, No. 1 Bond-st., New-York.

Staten-Island, July 1—tf.

DRAIN TILE WORKS, ALBANY.
60 Lancaster Street, west from Medical College.

THE subscribers are manufacturing a superior article of Drain Tile of different sizes and shapes at prices from $14 to $20 per thousand pieces, which are used for land draining. The Tile are over one foot in length and formed to admit the water at every joint, effectually draining the land from 12 to 20 feet each side of the drain. 1000 Tile will lay 1200 feet of drain, being the cheapest and most durable article used. We have on hand Tile sufficiently large and well calculated for Cellar, Cistern, Yard and Sink drains, from 2 to 25 cents per foot. Call at our office, and at the Agricultural Stores at Boston, Providence, Springfield, Hartford, New-Haven, Bridgeport, New-York, Newark, Philadelphia, Alexandria, Baltimore, Schenectady, Utica, Syracuse and Rochester, and examine the article.

July 1—4t. A. S. BABCOCK & CO., Albany.

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THE subscriber offers for sale his farm, in Windsor, Broome co., four miles from the Erie Railroad, and eight miles from Binghamton.

It consists of 400 arces, 300 of which are improved, with a dwelling house, barn, sheds, and a Pine Apple Cheese manufacturing establishment thereon. The land is of excellent quality for grazing or grain growing, and will be sold together or divided, at an inviting price, with or without the stock.

Applicants may call on M. Hawley, James S. Hawley, or A. Doubleday, Binghamton, for price, &c. ELI PRENTICE.

Chenango, July 1—2t.*

Full Blood Devon Stock for Sale.

THE subscriber will dispose of 10 or 12 head of his pure Devon Stock, consisting of Cows, Yearling Heifers, Bull and Heifer Calves, and one Bull two years old. This stock was derived principally from the herds of R. L. Colt, Esq., of New-Jersey, and Geo. Patterson, Esq., of Maryland. The Cows are excellent milkers, and the Yearling Heifers and Young Stock, are very beautiful animals.

The two year old bull was got by Rover, a Full Blood from the stock of Lewis F. Allen. Dam, Ellen, a Prize Cow from the stock of Mr. Colt. ROVER was by the Imported Bull ECLIPSE.

I will also sell my fine MORGAN STALLION YOUNG GIFFORD, four years old this spring; a colt of the Old Gifford Morgan, his dam a Morgan Mare. Also a fine Morgan Mare by the same Horse, and same age—her Dam by Morgan Eagle, Grand Dam by the original Justin Morgan Horse. MORGAN EAGLE was got by old WOODBURY MORGAN, well known as the sire of the Old Gifford. The Mare has a foal by her side by the above Horse.

Both of these animals are fine and very promising, and among the the very best specimens of this distinguished breed. For terms, &c., address "post-paid," WM. L. COWLES.

Farmington, Ct., July 1—2t.

Youatt's Great Work on the Horse.
Sent by Mail, post-paid.

NOW ready, a new edition of "Youatt on the Ssructure and Diseases of the Horse, with their Remedies," also practical rules to buyers, breeders, breakers, &c., brought down to 1849 by W. C. Spooner, the celebrated English Veterinary Surgeon, to which is prefixed an account of the breeds in the U. S., by H. S. Randall, Esq., with 55 illustrations—price $1,50, on receipt of which post-paid (if mailed in presence of P. M., at our risk,) we will forward the work, postage paid to any P. O. in the U. States. Address, post-paid,

July 1—3t. DERBY & MILLER, Auburn, N. Y.

Best Fruit Book.
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July 1—3t. DERBY & MILLER, Auburn, N. Y.

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GRAIN CRADLES, of Bryant's, Bailis, and other makers. Snaths, patent and plain. Scythes, of Harris', Blood's, and Waldrons. Hay Forks of various makers. Horse and Hay Rakes. Scythe stones and rifles. For sale at the lowest cash price by

G. H. BARR, State Agricultural Warehouse,
July 1—1t. No. 25 Cliff street, New-York.

Practical and Scientific Agriculture.
NEW AND VALUABLE SCHOOL BOOK.
Agriculture for Schools.

MARK H. NEWMAN & CO., 199 Broadway, New-York, have just published a most interesting and useful Reading Book, entitled *Lessons in Modern Farming, or Agriculture for Schools*, containing Scientific Exercises for Recitation, and elegant extracts from Rural Literature, for Academic or Family Reading, by Rev. JOHN L. BLAKE, D. D., author of "Farmer's Every Day Book," "A General Biographical Dictionary," and "Family Encyclopedia of Useful Knowledge," &c.

The attention of Farmers, Teachers and School Officers is invited to the merits of this Book, containing, as it does, much valuable instruction on the subject of Agriculture. The following subjects are treated in a familiar and practical manner: Agricultural Chemistry—Implements—Organs and Structure of Plants—Food of Vegetables—Theory of Manures—Nature and Variety of Soils—Approved Modes of Tillage—Rotation of Crops—Physiology of Animals—Milk, Butter and Cheese—Theory of Feeding, &c. &c.

The design of this Book is to store the mind with Practical Agricultural Knowledge, in connection with the Rhetorical Exercises of the Scholar.

The Book contains 432 pages, and is substantially bound. The retail price is $1, and they are furnished to schools for $9 per dozen.

July 1—1t.

New York Agricultural Warehouse and Seed Store.

A. B. ALLEN & CO., 189 and 191 Water street, New York.

Fresh Garden Seeds, a large assortment of the various kinds. Also, Field Seeds.

Lawn and other grasses.

Horticultural and Garden Implements. The best and greatest variety for sale in the United States. Plows, Spades, Hoes, &c. &c.

Guano, Bone Dust, Poudrette, and other ertilizers.

Prompt attention given to all orders by letter or otherwise.

March 1—tf.

HORSE POWER.

UNRIVALLED Horse Powers of all kinds, guaranteed the best in the United States.

1. The Endless Chain or Railway Power, of our own manufacture, both single and double geered, for one and two horses. These have never been *equalled* by any other manufacturer for lightness in running, strength, durability and economy. They are universally approved wherever they have been tried.

2. The Bogardus Power, for one to four horses. These are compact and wholly of iron, and adapted to all kinds of work.

3. Eddy's circular wrought iron large Cog Wheels, for one to six horses. A new and favorite Power.

4. Trimble's iron sweep Power for one to four horses. Warren's ditto.

A. B. ALLEN & CO.,
March 1—tf. 189 & 191 Water street, New York.

THE CULTIVATOR

Is published on the first of each month, at Albany, N. Y., by

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